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IDENTIFIERS Sesame Street

ABSTRACT

Selected papers from a conference on educational communications, stressing the use of audiovisual aids in the classroom, are presented. Major topics of the 41 papers include: uses for student film-making, uses of instructional materials centers, a multimedia humanities course, uses of systems development, producing multimedia self-instructional study units, television production, classroom utilization of "Sesame Street," use of educational television, instructional materials coordinators, individualized instruction and the logistics of media materials, dial access, the instructional potential of media for teaching reading, use of the talking typewriter for autistic children and those with learning disabilities, and current developments in the use of instructional television fixed services. (JK)

1970

EDUCATIONAL COMMUNICATIONS

New York State Educational Communication Association

1970

ED057556

Dear Colleague:

The twenty-third Educational Communications Convocation was held at Grossinger's Hotel, November 3-6, 1970. The meeting was sponsored jointly by the New York State Educational Communications Association, and the Division of Educational Communications of the New York State Education Department.

About 1700 educators who are concerned with innovation in educational communications and technology participated in the conference. Presentations included research and demonstrations reporting on developments and techniques of interest to edcom professionals. Over one hundred twenty five exhibitors displayed the latest in technical progress and new materials.

The general sessions of the Conference centered around the theme of "Accountability". James Mason of the Singer Corporation, Francis Keppel, former U.S. Commissioner of Education and now with the General Learning Corporation, and Adrian Sanford and Tom Haddock of the Educational Development Corporation gave their views on the role of education and the learning corporations, with the implications for educational communication approaches.

A selection of presentations made during the Convocation are included in this summary. Not all programs are reproduced here since many of them were of a demonstrative nature; other presentors did not submit a manuscript.

We hope this Conference Report will be valuable to you as a record of the Convocation. The Convocation Coordinator was Dalton Levy, the Program Chairman was Theodore Henry. Liaison with the State Education Department was through Loren C. Twyford. Catherine Bailey prepared the manuscript for publication.

We cordially invite your participation in the 1971 Educational Communications Convocation.

Sincerely,

Norman H. Siegel

Norman H. Siegel, Ed.D.
President

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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★ *An Affiliate of the Department of Audiovisual Instruction of NEA and of New York State Teachers Association*

COMMUNICATIONS CONVOCATION
PRELIMINARY PROGRAM

Grossinger's, New York — November 3-6, 1970

PRELIMINARY GENERAL PROGRAM

Tuesday - November 3

2:00 p.m. REGISTRATION
3:00 p.m. HOSPITALITY
6:00 p.m.
8:30 p.m. GREETINGS AND AWARDS
9:45 p.m. Keynote speaker to be announced.

Wednesday - November 4

8:45 a.m. REGISTRATION
9:45 a.m.
9:30 a.m. EXHIBITS
12:30 p.m.
9:30 a.m. A MULTIMEDIA VIEW OF DIAL ACCESS 11
10:15 a.m. Robert F. Steffen, Syracuse
A presentation designed to show exemplary systems of dial access and to present some of the problems and decisions that must be made in developing a proposal for an access system.

REALISTIC EXPECTATIONS AND USES OF SCHOOL TELEVISION
Mitchel Chetel and A. Richard Clark, Scarsdale
The educator should explore the capabilities of the television technology and learn to adapt television utilization to the school needs.

REGIONALISM IN EDUCATION
Jack Tansman, Jericho BOCES
Equalizing educational opportunities for all and implementing the entire cooperative philosophy between State educational agencies have enlarged the role of education in New York State and made possible many innovations, studies, projects, and proposals.

RESEARCH INSTRUCTIONAL PACKETS 14
Mary E. Aldrich, Norwich
The Research Instructional Packet (RIPS) is a unit approach to teaching. It is programed learning for all abilities levels, using multimedia from the Instructional Materials Center.

INQUIRY TEACHING THROUGH NONVERBAL FILMS 20
Leonard W. Ingraham, New York City Board of Education
The use of nonexpository films will be demonstrated to develop inquiry and discovery in the learning process. Recent films with nonverbal approaches but with sound tracks will be utilized.

UTILIZATION OF AN EDUCATIONAL TECHNOLOGY GRANT
Thomas Alesse, Buffalo
This school-produced, synchronized sound filmstrip tells the story of a New York State Educational Technology Grant. Individualized learning from other than printed matter becomes a reality in the Sweet Home Senior High School.

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Wednesday - November 4 (continued)

9:30 a.m.
10:15 a.m. INSTRUCTIONAL EFFECTIVENESS AND COST-EFFECTIVENESS OF PROGRAMED INSTRUCTION AND TEACHING MACHINES

Richard E. Onorevole, Englewood, New Jersey

This study deals with two problems: instructional effectiveness and development of administrative guidelines to determine cost effectiveness.

THE CARE AND FEEDING OF MATERIALS INTO THE "COOL" MEDIUM 22

Ronald R. Nicoson, Ithaca College

A step-by-step outline shows the development of ideas into a television production.

10:35 a.m.
11:20 a.m. THE RESOURCE CENTERED ELEMENTARY SCHOOL

Duane W. Fischer, Hamburg

This presentation depicts various innovative and exciting applications of media in a new elementary school.

MEDIA, THE HUMANITIES AND URBAN UNDERSTANDING

Bernarr Cooper, State Education Department

It portrays a fusion of poetry, music, and technology. The video tape, "Cities in Music," will be presented.

"SESAME STREET" IN THE CLASSROOM: OR WHICH COMES FIRST BIG B OR LITTLE B? REPORT OF CLASSROOM UTILIZATION 24

Jane Redmond, Channel 13/WNET

A local broadcasting television station and an independent national television producing agency joined forces to evaluate classroom utilization of "Sesame Street."

MEDIA AND THE LIBRARY: PROBLEMS AND SOLUTIONS 30

Daniel Davila, Garden City, and
Sister Anne Cecile Marrill, Blauvelt

A discussion and demonstration will be presented to show how two small colleges cooperated in organizing an instructional materials collection.

SELF-DIRECTED LEARNING 31

Mildred Leahy, Yonkers

A film presentation showing fourth graders developing their own learning sequences, and their reactions to the learning results.

THE PROCESS OF INDIVIDUALIZING INSTRUCTION 35

Olcott Gardner, Fayetteville, and
Woodrow W. Snyder, Dewitt

An attempt will be made to portray the instructional milieu which has resulted from the implementation of individually prescribed instruction and the logistical details and results of evaluation of the programs.

THE PROCESS IS PRODUCTION

Dagny Blanchard, Pace College, New York City

Pace College students learn how to write and produce television programs as a part of their professional training.

KINDERGARTEN CAMERA CLUBS: AN APPROACH TO AN INDIVIDUAL READING READINESS PROGRAM 46

Robert E. Hedges and Robert Catney, Jamesville

The simple camera will be used in conjunction with the language experience approach to reading readiness in a special program for children who meet age requirements for kindergarten, but are immature.

11:30 a.m.
12:30 p.m. GENERAL SESSION

Dr. Norman Siegel

Wednesday - November 4 (continued)

2:00 p.m. EXHIBITS OPEN
4:00 p.m.

2:00 p.m. SYSTEMS DEVELOPMENT IN EDUCATION 48
2:45 p.m. William H. Williams, Rochester
This is a "how to" paper demonstrating specific steps which can be taken to implement a systems approach in the development of curriculums and programs in education.

A FUNNY THING HAPPENED ON THE WAY TO SESAME STREET
Anthony P. Buttino, Buffalo
A lighthearted approach to information about the beginning of ETV/ITV and programing development to the introduction of "Sesame Street."

MAKING SIMPLE AND ADVANCED OVERHEAD TRANSPARENCIES
Alexander Rosen, Wantagh, New York
A workshop will be set up to enable everyone to make his own transparencies. Come see and come do your own transparencies.

USE OF EDUCATIONAL TELEVISION 58
Roland Ellis and Russ Abrams, New Paltz
This program will describe what is involved with the installation of a districtwide system and the uses to which it is put.

MENT A-MAMARONECKS' ENGLISH TEN APPROACH: A MULTIMEDIA HUMANITIES COURSE 60
Miss M. Macchia, Mrs. M. Sper, Miss H. Diskiwi, Scarsdale
The program covers specific examples of the teaching techniques used, student-produced projects, and sample assignments.

TRAINING SCHOOL DISTRICT PERSONNEL IN INSTRUCTIONAL DEVELOPMENT ..62
J. Johnson, K. Tessier and Vic Lisnyczyj, Syracuse University, K. Jordanek
The Special Media Institute is a consortium of four universities dedicated to the improvement of instruction through the use of media and technology.

GAINING RECOGNITION FOR THE INSTRUCTIONAL MATERIALS COORDINATORS .65
Arnold Winegarden, New York City
A discussion of the responsibilities and services of the educational communications person on the job.

3:00 p.m. PLANNING FOR NEW EDUCATIONAL FACILITIES
3:45 p.m. William J. Ryan, Rensselaer Polytechnic Institute
Modern learning spaces that are in planning stages today must be flexible enough to serve the visually oriented learners of the next generation.

FILM ON TV FOR THE VALUING PROCESS: DIRECT INTERACTION WITH THE MEDIA WITHOUT A TEACHER 66
Grace Lacy, New York State Education Department
Short films are ideal for presenting situations which demand choice. An experiment in Rochester used a series of short discussion films, introducing them with puppets, followed by questions designed to promote discussion of the film.

PHILLIPSBURG, NEW JERSEY: OUR TOWN 70
Constance Moy, Phillipsburg, New Jersey
A visual textbook on the local community was prepared by third grade teachers of the district.

3:00 p.m.
3:45 p.m.

A SYSTEMATIC DESIGN FOR A DISTRICT MEDIA PROGRAM
Herb Parsons, Roslyn
A systematic method for media program development is invaluable because it not only functions as a very efficient control device, but serves to generate alternative solutions to complex problems.

TEACHING THE DEAF THROUGH AV PROGRAMS
Joseph Piccolino, Buffalo
Educational media are used to educate deaf children from 2 to 20 years of age.

SIGN LANGUAGE IS ART AND COMMUNICATION
Salvatore Parlato, Rochester
A demonstration of sign language with accompanying narration is presented as an example of a universal visual communication technique.

TRAINING THE MEDIA TECHNICIAN
Jerry A. Gordon, Alfred State College
This presentation will cover the curriculum required for training technicians.

MULTIMEDIA CURRICULUM DECISION MAKING PACKAGES: A WAY TO SAVE PROFESSIONALS' TIME
Milton Wartenberg, Hamden, Connecticut
A multimedia presentation was designed to help individual schools evaluate existing programs, make more realistic decisions about the curriculum, and select areas that need revision.

4:00 p.m.
4:45 p.m.

A PRESCRIPTIVE PROGRAM USING THE TALKING TYPEWRITER FOR BOTH AUTISTIC CHILDREN AND CHILDREN WITH LEARNING DISABILITIES IN AN INSTRUCTIONAL SETTING 75
Thelma Kant, Gladys Ramos, and Ruthanne Shanks, Rockland State Hospital
Rockland State Hospital has been operating a Talking Typewriter program for 2 years, involving both autistic children and those with hard core reading disabilities.

LOOK AT WHAT TUNED-ON KIDS CAN TURN OUT 85
Sheldon F. Katz, Spring Valley
This is a visual generation that we are teaching today, so let's take advantage of it. By having the students work with media, we can turn on the kids and tune them into school.

INDIVIDUALIZED INSTRUCTION AND THE LOGISTICS OF MEDIA MATERIALS .. 88
Milton Van Vlack, Hartford, Connecticut
The problem of supplying the appropriate materials for individualized programs is not so much the selection, purchase, and utilization techniques as it is warehousing the software.

INSCHOOL PRODUCTION OF FILMS TO SOLVE CLASSROOM PROBLEMS 90
Dr. Ernest A. Baum, Armonk
Films produced by pupils and teachers can be used to solve a variety of instructional problems in the classroom.

INSTRUCTIONAL TELEVISION FIXED SERVICE (ITFS): A NEW APPROACH
Francis J. Ryan, Jr., Uniondale
This program presents an overall description of the Diocesan TV center as an instructional television fixed service (ITFS), an instructional materials center, and a teacher training center.

Wednesday - November 4 (continued)

4:00 p.m. DRESS UP YOUR TV LESSON
4:45 p.m. R. G. Pellerin, New York Institute of Technology
How can ITV hope to entice students unless it utilizes the same kind of "entertainment" techniques seen on commercial TV?

VISUAL LITERACY: DR. MARTIN LUTHER KING SCHOOL
Vyvian d'Estienne, Schenectady, New York
The Visual Literacy Program at King School is a creative, innovative attempt to make education a relevant enterprise for urban, inner-city school children.

4:30 p.m. EXHIBITORS MEETING

7:00 p.m. EVENING IN PARIS
9:00 p.m. Compliments of the exhibitors.

Thursday - November 5

9:30 a.m. THE VITAL LINK BETWEEN MEDIA AND LEARNING
10:15 a.m. John Kerwin, Youngstown
A presentation emphasizing the importance of the role of the media person and the affiliate organization in implementing teaching and learning objectives.

INDIVIDUAL TELEVISION PROJECTS WITH CERTAIN SERVICES SHARED
Carson H. Graves and Charles G. Chase, Hastings-on-Hudson
BOCES #2, Westchester County, instituted a shared Cooperative Television Project which provided consultant and technical services to five school districts to use building level or district closed circuit television studio and distribution system.

MEDIA MANAGEMENT: A PROCESS APPROACH TO SYSTEMS DEVELOPMENT ..91
Joseph W. Gilkey, Pittsburgh, Pennsylvania
This presentation uses scientific instructional systems development as a model for introducing media systematically into instruction.

AUDIO-VIDEO DIAL ACCESS: A PARTIAL SOLUTION TO THE INDIVIDUALIZATION OF INSTRUCTION
Mary Joan Egan, Scotia
A study of audio-video dial access installations in the Nation reveals a tremendous effort to individualize instruction through technology.

HIGHLIGHTS OF THE 1969-70 TECHNOLOGY GRANT PROGRAM 98
Warren R. French, New York State Education Department
Highlights of demonstration projects sponsored by the Bureau of Classroom Communications with Technology Grant Funds.

USE OF AV TECHNIQUES IN BUSINESS EDUCATION
Abraham Ginsberg, New York City
Demonstration of the interrelationship of various media in the teaching of several business subjects.

MEDIA PREPARATIONS OF TEACHERS: THE NCATE STANDARDS AND DAVI GUIDELINES
Clarence O. Bergeson, SUNY Geneseo
DAVI has developed guidelines to accompany the NCATE Standards. College programs for the preparation of teachers are certain to be influenced by these documents.

Thursday - November 5 (continued)

9:30 a.m.
10:15 a.m.

NEW YORK STATE AUDIO TAPES FOR TEACHING SERVICES

George L. Blanco, New York State Education Department, and
Joseph S. Plesur, BOCES Erie County #1

Five regional educational communications centers provide the tape dubbing services to schools in their respective areas. Costs, services, and future implications will be discussed during this session.

10:30 a.m.
12:30 p.m.

GENERAL SESSION ACCOUNTABILITY AT THE LEARNER LEVEL 107
Tom Haddock, Phoenix, Arizona

2:00 p.m.
5:00 p.m.

EXHIBITS

2:00 p.m.
2:45 p.m.

CABLE TV-WHAT'S HAPPENING AROUND THE COUNTRY: A STATUS REPORT

Roger W. Hill, Jr., Northport

This presentation capsulizes the historical development of CATV: a status report of current endeavors and speculations about cable TV's potential as a teaching-learning vehicle.

PROJECT ICEIT (IMPROVING COST EFFECTIVENESS IN INSTRUCTION BY TECHNOLOGY) 112

Paul G. Neff, Jericho, and
Raymond Graf, William Halligan, and Nancy Pline, New York State Education Department

Project ICEIT (Improving Cost Effectiveness in Instruction by Technology) is a pilot developed by the Bureau of the Mass Communications in an effort to systematize professionals, paraprofessionals, and television toward achieving greater cost efficiencies.

A ZERO DEFECT PROGRAM FOR THE MANUFACTURE OF AUDIOVISUAL EQUIPMENT

Herman E. London, Pleasantville 113

Everyone is concerned about securing quality items for school use. Perhaps a "Zero Defect" program, patterned after the one designed and promulgated by the Secretary of Defense, could be formulated.

CREATIVE WRITING THROUGH FILM MAKING 115

Mildred C. Blank, New York

"Creative Writing Through Film Making" is taught the first year of high school. The basic principles of good composition and essay writing are taught; and then each student chooses a theme, borrows a camera, and produces a film as a visual composition.

CINEMA AND THE WOODSTOCK MYTH

Katherine V. King, New York State Education Department

This lecture demonstration will illustrate both the traditional "Establishment" values and the challenging "Woodstock" view with the intention of promoting mutual understanding.

INDIVIDUAL DIFFERENCES IN LEARNING CHARACTERISTICS

Stanley L. Schwartz, New York Institute of Technology

In conjunction with a multimedia physics course, an experiment was conducted to determine the individual differences in media sensitivity of students.

A PRACTICAL PROGRAM FOR THE DEVELOPMENT OF A DISTRICTWIDE INSTRUCTIONAL MATERIALS SERVICE

Wilson R. Gearhart, Mabel Berry, and A. Nick Treglia, Syosset

A school district has developed a district instructional materials center providing materials and services to teacher and students through 13 individual school media centers.

2:00 p.m.
3:45 p.m.

BOCES ANNUAL BUSINESS MEETING

3:00 p.m. SCHOOL-WIDE PROGRAM FOR TEACHER-STUDENT EVALUATION OF FILMS .. 117
3:45 p.m. Bernard Buchweitz, Rome

A special program involving students and faculty was planned to evaluate over 100 educational films in all subject areas.

STATE PROJECT: EVALUATION OF CLASSROOM FILMS
Lucille McCabe, New York State Education Department

A progress report on the statewide project carried on by the Bureau of Classroom Communications for the dissemination of film evaluations to schools.

DRESS REHEARSAL: READY ONE: TAKE ONE
Anthony P. Buttino and Robert Brogan, Buffalo

An actual TV program in "Dress Rehearsal" illustrates the many facets of production of television programs.

INSTRUCTIONAL POTENTIAL OF MEDIA FOR TEACHING READING 119
Jane Algozzine, New York State Education Department

The key to successful individualization in a reading program lies in the creative use of multimedia for instruction.

THE STORY OF THE GREECE CENTRAL IMPC (INSTRUCTIONAL MATERIALS PROCESSING CENTER) 123
Douglas Cunningham and Richard Edgett, Greece Central Schools

This educational facility gives districtwide program support to 700 faculty and over 13,000 students.

WHOLLY STUDENT OPERATED FM SCHOOL RADIO STATION
Richard Fearns, Lake Ronkonkoma

A presentation illustrating the operation of an educational FM radio station in Suffolk County by students.

EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) SYSTEM
Gregory Benson, Jr., Delmar

To date, there are over 40,000 educational documents in ERIC available in microfiche and hardcopy. How these documents are disseminated to educators will be explained in the presentation.

HEURISTICS OF INSTRUCTIONAL DEVELOPMENT OF A PHYSICS AUTO-TUTORIAL PROJECT FOR SUNY
Spenser B. Rohrlick, New Paltz, New York

An auto-tutorial physics course was developed at New Paltz in 1969. The program will include solutions and recommendations for this type of project.

4:00 p.m. A VISUAL FABLE
4:45 p.m. Lawrence Garfinkel, Hempstead, New York

AGES 7-17: THEY DO IT! PORT WASHINGTON'S FAMOUS TV PRODUCERS
Barbara Yanowski Ryder, Port Washington

Television is a relevant part of the school learning pattern.

A DISCOVERY ORIENTED MULTIMEDIA UNIT PACKAGE FOR TEACHING SCIENCE IN THE ELEMENTARY SCHOOL: AN INNOVATION IN THE COLLEGE PREPARATION OF ELEMENTARY SCHOOL TEACHERS
Mitchell E. Batoff, Jersey City State College

A special science methods course has been developed which has as a central feature the practical assignment of assembling a multimedia package.

Thursday - November 5 (continued)

4:00 p.m. DEVELOPMENT PROCESS FOR PRODUCING MULTIMEDIA SELF-INSTRUCTIONAL
4:45 p.m. STUDY UNITS 125

Charles M. Bidwell, University of Maryland

This presentation of "The Development Process" for self-instructional materials uses slides, audio tape, and audience participation utilizing response booklets to achieve performance objectives.

BUILDING AN INSTRUCTIONAL RESOURCES LIBRARY

Peter J. Dirr, State University of New York

An instructional resources library has been organized to service the universities and colleges in New York State and to interface the library's systems with others throughout the country.

TURNED ON: ENGLISH COMPOSITION

Hugh E. McKenna, SUC-Oswego

A multimedia approach to the teaching of English composition.

5:30 p.m. NYSECA RECEPTION
6:30 p.m.

8:45 p.m. GENERAL SESSION
10:00 p.m.

Friday - November 6

9:30 a.m. A MULTIMEDIA PRESENTATION OF ELEMENTARY SPANISH GRAMMAR
10:15 a.m.

Carl T. Erickson, SUNY at Stony Brook

The elements of the formation and use of the subjunctive mood in the teaching of Elementary Spanish can be presented in such a way that the student not only hears what happens, but also sees it happening.

THE 3 R'S + 2: LIECC'S MASSIVE EXPOSITION TO GAIN SUPPORT FOR SCHOOL BUDGETS

David V. Guerin, Garden City

An exposition of educational facilities was displayed in a shopping center to demonstrate that when the public understands that children clearly benefit from these facilities, more local support for schools can be expected.

AUDIOVISUAL AIDS CAN BE USED IN MAKING READING A REWARDING EXPERIENCE: GRADES 2-4 128

Richard Decker, Saratoga Springs

A summer reading clinic, grades 2-4, used audiovisual equipment and an audiovisual approach to improve the reading ability of students.

ACTION RESEARCH LOOKS AT INNOVATION 135

David Jenkins, Colgate University

The research findings of a regional research project sponsored by the Kettering Foundation will be summarized with special attention given to its implications for media programs.

LOCALLY PRODUCED, CURRICULUM-ORIENTED 8MM FILMS, FOR SLOW LEARNERS AND DISADVANTAGED CHILDREN

Frank Calidonna, Rome

Curriculum-oriented 8mm films were produced for use by classroom teachers. All phases of production will be discussed.

THE PLANETARIUM

Martin Steinbaum, New Rochelle

A portable planetarium is used by a school district, K-12, to teach astronomy and space science.

Friday - November 6 (continued)

9:30 a.m. INSTRUCTIONAL MEDIA AND LEARNING SPACES
10:15 a.m. Frederick G. Knirk, Syracuse University
The design of learning environments directly affects student learning and in turn is directly affected by media requirements.

PLANNING FOR NEW EDUCATIONAL FACILITIES
William J. Ryan, Rensselaer Polytechnic Institute
Modern learning spaces that are in planning stages today must be flexible enough to serve the visually oriented learners of the next generation.

WHO KNOWS WHAT'S THERE?
Herb Braselman, West Chester State College, Pennsylvania
A statewide data bank provides effective control of instructional resources through standardized identification procedures.

10:35 a.m. TRAVELING FROM SOUND TO SOUND: A MULTIMEDIA PRESENTATION
11:20 a.m. RELATING SCIENCE, MUSIC, AND LANGUAGE ARTS 137
Nancy Pulisfer, Brunswick, Maine
A multimedia lesson was designed which uses music as a catalyst for relating elementary science and language art study.

TV 'READING'
Thelma Patel, Woodmere
A lecture demonstration is used to show interpretive approach to television programs, such as "Julia" and "Leave It To Beaver."

SEMINAR ON EVALUATION OF INSTRUCTIONAL EQUIPMENT AND MATERIALS
David J. Rees, New York State Education Department
The implications of a national study on evaluation of educational materials and equipment will be presented.

MEDIA CENTERS: A UNIFIED, DISTRICTWIDE APPROACH
Walter E. Werber, Moorestown, New Jersey
A New Jersey community has taken major steps toward the total integration of audiovisual materials and equipment with the traditional printed media.

CLASSROOM COMMUNICATION: TEL-LECTURE 138
Donald E. Kruck, Haledon, New Jersey, and Arnold D. Tversky, Dover, New Jersey
This presentation will focus on methods of organization of the Tel-Lecture for the classroom, potential curriculum areas in which it may be used, and enlisting community assistance for locating resource people.

MEDIEVAL MYSTERY 141
William D. Podmore, East Northport
A 25-minute super 8mm film produced as a classroom activity.

FACULTY-STUDENT NEGOTIATIONS ON A TROUBLED CAMPUS 141
Ruth Goldstein and Craig G. Allen, Hunter College
Television was used to provide a channel for communications for negotiating the student demands at Hunter.

STUDENT FILM MAKING WITHOUT CAMERA TO ENCOURAGE DISCIPLINE IN THINKING
Harold Levitt, Teaneck, New Jersey
The use of a filmstrip material that can be written upon and then projected immediately provides the motivational climate of film making without the cost of cameras or loss in time for processing.

Friday - November 6 (continued)

11:40 a.m.
12:25 p.m.

AV FORMS: TIME SAVERS ESSENTIAL TO EFFICIENT OPERATION
William F. Van Wyck, Nyack
This program will focus on how many of the problems of organizing and administering a districtwide educational communications program were effectively solved through the use of carefully planned forms.

AUDIOVISUAL BUS PROJECT 144
Duane Ash and Ed Moy, Ithaca
A report of a 2 year audiovisual bus project designed for vocational students.

VIDEO TAPE BOARD OF EDUCATION PROGRAM REPORTS 147
Irv Henry and Ed Moy, Ithaca
A video tape report of a building program was prepared for the Annual Budget Meeting.

CONVEYING THE MESSAGE OF MEDIA OR HOW TO SELL YOUR A-V PROGRAM
Norman J. Goldstein, New York City 148
A group of dedicated media specialists in New York City has launched a comprehensive, intensive, and diversified campaign for meaningful educational reform. Media are used to convey the message.

TELEVISION PRODUCTION: CUT-RATE 149
David Israel, Port Washington
Presentation includes simple circuits and constructions that students can put together for switching and graphics work.

SPECIAL EDUCATION INSTRUCTIONAL MATERIALS CENTER NETWORK
Staff SEIMC, New York State Education Department
This program explains the network of Special Education Instructional Materials Centers, both National and State.

PROGRAMING THE EDUCATIONAL FM RADIO STATION
William R. Berry, SUC at Geneseo
New programing for educational FM radio must emerge from experimental formats which are not built upon "the golden age" of radio.

WNYE-FM-TV
Joan McCabe, Channel 25, New York City
Channel 25 is a major producer of instructional television programs for the United States.

November 6, 1969

THE LEARNER REVISITED: CURRENT DEVELOPMENTS IN THE USE OF INSTRUCTIONAL TELEVISION FIXED SERVICES 159
Bernarr Cooper, New York State Education Department
An examination of current trends and developments in the use of Instructional Television Fixed Services at all levels of learning but with emphasis on learning at higher institutions of education.

A VIEW OF DIAL ACCESS INFORMATION RETRIEVAL SYSTEMS

by Robert F. Steffen
Syracuse, New York

INTRODUCTION

The preparation of a proposal for a dial access information retrieval system requires certain priorities in decision making. It is vital first that educational objectives take precedence over systems specifications, and the prudent planner will not acquire a system and attempt to develop objectives for it from it. Second, a careful choice of planning personnel is of real necessity. Those to be involved should include administrators - who must authorize budget and bear the final responsibility for the functioning of the system; media specialists - who must plan and coordinate the system into existing curriculum; faculty representatives - who must understand and be willing to use the system if it is to be an educational success; and finally the technical consultant - who should be brought in after objectives have been clearly defined to then plan the hardware from the point of view of the school's needs and to act as a protector of the school's interests in dealing with commercial hardware manufacturers.

Once a proposal has been developed on which there is overall agreement by administrators, media specialists, faculty representatives and consultants - one which will meet objectives of educational goals, budget potential, optimum use of available physical plant, etc. - representatives of hardware manufacturers may then be called in to suggest ways in which their equipment may be installed to satisfy the needs of the school. Only after there is agreement at this stage should formal proposal writing and bid requests be attempted. Too often schools have had the experience of calling in hardware manufacturers at the outset and of having their thinking colored all through the planning stages by a limited or biased knowledge of hardware availability over educational goals.

II

Decisions regarding maintenance of the system need to be made early in the planning process. Currently there are two options: a service contract with the manufacturer or the hiring of maintenance staff by the institution. A service contract with the manufacturer is normally less costly, but one may find that a portion of the facility will be inoperative for a period which may run into several weeks. It is personal belief that to make an information retrieval system work within an educational framework maintenance should be done by local personnel. Experience has shown that the quickest way to have such a system ignored by students and teachers alike is to have a system that is regularly out of service.

Oftentimes technical personnel can also be utilized for other electronic equipment maintenance at the school and/or TV cameraman and assistant to faculty in preparing materials for the information retrieval system. It must be mentioned at this point that a technician of that quality will cost between $8000 - $10,000 a year.

III

Decisions regarding software must be made before actual physical planning of the system is begun. Here the most important factor is whether software will by and large be produced in the school's own studio or purchased commercially. At the present time there is a general lack of good software available on the commercial market, and as of today, it is imperative that a large portion of it be produced in the studio. Here faculty participation is of special value, since the easier it is for a teacher to either produce his own material or see his ideas developed into programs, the stronger will be his cooperation with and utilization of the system.

Needless to say, production facilities needs must be planned as a part of the whole system. The first item is that of the Audio Studio - a soundproof room with a microphone for the recording of voice on a master tape, and an attached control room with 2-channel audio board for control of microphones and tape recorders, a record player for transferral of disc information to tape, and a tape recording system for the programming of the dial access information retrieval system. The

latter may be a reel-to-reel installation producing four-track unidirectional tapes which might be used on machines such as the Viking 230. It could also be a cartridge format, in which case a recorder that produces four-track unidirectional cartridges would be used. A third possibility is the cassette format, in which case tapes of two (unidirectional) tracks would be produced.

Other additions to production facilities which are useful but not mandatory are program equalizers for balancing the audio spectrum, sound effects filters, high-speed duplicators, and machines allowing for duplication from one format to another. The latter requires one each of two- and four-track reel-to-reel tape recorders, one cassette recorder, one cartridge recorder and one large format cassette machine.

Some words of caution about the production studio and soundproof room: a soundproof room cannot keep out high levels of noise. Be sure the location of the room is free from high background noise (air conditioning equipment, heavily traveled public areas). Investigate the electric clocks in the building to ascertain that they do not have built-in an automatic correction device which produces an audio tone over the AC power line. Should this be the case, that signal will appear on any tape being recorded at the time the clocks are corrected.

TYPES OF SYSTEMS

The retrieval of audio information for educational purposes has moved in two major directions. The first, known as the Remote Access System, has developed from the needs of language laboratories and involves remotely operated tape recorders. At present, the Remote Access System supplies a student in a carrel with a pair of headphones and dial or push-button which connects him via switching mechanisms to the program he wishes. In this application the student has control of the master program. Another student wishing this program either dials into the program in progress, is given a busy signal, or is connected to another deck containing the same program. In some installations, high demand programs start automatically at a prescribed time, with students given time of playing information (on assignments) in advance.

The second, known as the Random Access System, allows the student to dial into a master program which is then transferred via high-speed duplicator to a tape deck that is under the student's control. This requires a tape recorder for the master programs and another recorder for every carrell for the transference procedure. This system has the advantage that when a student dials a program it is unavailable to other students only for the period of time of the high-speed duplication process (normally not more than one minute). The Random Access System is highly efficient, but the cost is extremely high.

Switching

The Remote Access System allows three categories or types of switching: crossbar, reed relay and solid state. Crossbar switching - used by Chester Electronics and AV Electronics for example - uses telephone-type, crossbar switching matrices to connect the student position with the selected audio program. Advantages include cost (highly economical up to about 50 stations), and reliability (long and wide usage in the telephone industry). Reed relays are more expensive than crossbar switching, but are budgetarily more feasible in systems of more than 50 stations. Their reliability is excellent and they use a minimum of space. They share with the crossbar the high insulation resistence of a mechanical switch and the low contact resistance. Solid State Switching utilizes a semi-conductor device for the actual switching procedure. The connection between tape recorder and student position is made when a field effect transistor is switched on. Advantages to this system include high reliability (no moving parts), high speed operation and extremely compact space. On the other hand, it is extremely expensive and has the disadvantage of crosstalk between channels. This is not a problem in systems of up to about 60 lines.

Decisions in this area, therefore, will be made on the relative importance of reliability, speed, moving parts, space and cost - all in relation to number of channels. If expansion is even a remote possibility, floor space and equipment room air conditioning capacity for extra equipment must be considered.

For example, in a small system of minimum cost with minimum crosstalk, a crossbar switching would be reasonable. In a larger system, a reed switch would be better. If frequency response is a significant criterion, reed switching may be the answer.

In addition one may need to consider whether the system must interface with existing telephone equipment to remote locations within the institution. All of the above types of switching may be interfaced, but the costs vary significantly between types. Any proposal should be designed to include interfacing, whether it is done directly or indirectly. In either case, a local telephone representative should approve the interface.

TYPES OF DIALS

Two types of dials are in present use in dial-access systems, the first of which is the standard telephone dial which has been in use for many years. The second is the new pushbutton or "Touch-tone" dial. The standard dial has the proven reliability from years of use and is perfectly adequate for information retrieval systems, but the newer "Touch-tone" is faster and gives more flexibility for future connection to computer and telephone office equipment. There is general feeling in the industry that in the near future we will be concerning ourselves with learning which is done largely outside the classroom. Audio and visual retrieval from library type archives or via computer may well need to be handled via the "Touch-tone" or pushbutton method.

TYPES OF AUDIO STORAGE

The current state of the art allows for the storage of audio information in the following formats:

Reel-to-reel: each tape contains four programs, each program up to 1½ hours, tape speed of 3 3/4 and 7½, high-speed rewind, automatic recueing, excellent reproduction of voice. Used in remote access language laboratories since 1960.

Cassette: each tape contains two programs, each program up to 30 minutes, tape speed of 1 7/8, medium speed rewind, automatic recueing, fair reproduction of music, excellent reproduction of voice. Used in education applications since 1965.

Cartridge: each tape contains four programs, each program up to 30 minutes, tape speed of 1 7/8 and 3 3/4, endless loop, automatic recueing, fair reproduction of music, excellent reproduction of voice. Used primarily in the broadcast industry.

Ampex Pyramid System: 32 tracks, 32 programs per deck, program time to 15 minutes, tape is endless loop with high speed duplicating format. Fair reproduction of music, excellent reproduction of voice.

TYPES OF CARRELS

There are many possible combinations of carrel configuarations. Which is chosen, of course, is dependent on all the applications the carrel will need to fulfill. These can include study area, television or self-instruction materials. The objectives of the carrel should be as carefully defined as the original objectives of the entire system.

VIDEO STORAGE

The retrieval of visual materials has not been included in this presentation because currently the cost is too high to be of value in a remote access system, commercial software is not available in large quantities and the newly announced systems for delivering visual information just coming onto the educational market are highly competitive and incompatible.

Should you be planning a system and care to keep open the option for visual information retrieval at a later date, you should be sure that additional switching equipment can be added, both in terms of space and compatibility, that all carrels are equipped with 110 volts AC for operation of a monitor, that cable trays be

accessible and have the capacity to carry additional necessary video cables (one cable per carrel) and that the equipment room air conditioner has the capacity for these additions.

In conclusion, I stress again the importance of careful intelligent planning and of faculty participation from the earliest stages. The two greatest problems in current audio retrieval systems are equipment which does not live up to its promise, either in quality of reproduction or in functioning continuity and faculty-student disenchantment. It is not surprising that these are related and that the second is partially a result of the first.

Our disappointements with current systems stem partly from planners making decisions based more on system specification than on educational objectives. We who are committed to the field of educational communications must continually remind ourselves that audio visual retrieval information systems are designed to further educational goals, not as goals in themselves.

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RESEARCH INSTRUCTIONAL PACKETS

by Mary E. Aldrich
Norwich, New York

Good morning. This is an opportunity to show you what we, in the Norwich Junior High School have tried to achieve to assist our children in a wider research program. I notice on the brochure it is listed as an "Instructional Materials Center". This is the nomenclature which was used at the time it was written up last spring. Now we understand it is to be called a "Learning Research Center". However, I don't feel it makes any difference what you call the program, or what you call the place where it is done -- the results that come from it are important. This is the keynote of the cross-media learning that we are trying to achieve at our Junior High School.

Our administrators and Board of Education have come to see and hear what our program aims to do. They have given us complete support. We received no outside grants in our school. It was completely financed by our Board of Education. The program materialized under the guidance of the Principal Lyman O. Anderson and Laura Wedge, head Librarian. The exceptional leadership of Mr. Anderson and the cooperation of the faculty make this type of program a workable reality.

To put you in the proper setting, we look like many other buildings of the era - part of the original building was constructed in 1888, added to in 1922, and still is changing within its shell today. The packaging of the merchandise may be important in salesmanship, but we are concerned with the immeasurably more important product of learning -- which cannot be tied with a ribbon in a box. It is the resultant education that counts. Oh, I'm duly envious of all you who have a budget that is almost limitless, and a new building with every conceivable educational advantage. However, today I'm going to talk particularly to those, like myself, who come here to gather ideas useable in old schools with low budgets. We make do, we build ourselves, and we scrounge. Here is the result of five

'ears in pictures and words.

This old building has a sentimental value to me, as three generations of my :amily have gone through its doors. The old building had dingy halls and dark :rim. We have tried to change this by adding bright colored paint to the walls ınd ceilings. Where it was feasible, large white areas were painted for projection ɔurposes. Other rooms had draw-down screens installed. Labs have been constructed ɔy our carpenters, and bookshelves for small libraries put in some rooms. The science department has a bright red weather station in one room. In the window is ı planning board, designed by Mr. Thomas Lloyd, our social teacher and built for ıse by the 7th grade in their individual research programs. We have even added glass brick, and here is a magazine area in our home economics department with a visual aid for sewing on the display board above.

Our proudest achievement is our Learning Research Center which evolved from ı study hall, a small office and a classroom. This is a picture of the old study ıall, which was dark and filled with over 100 desks. In fact, it was so dark it was difficult to get a good picture of the room. This was renovated, lightened with paint, drapes at the windows were added and shelving put along the walls and ɔn islands on the floor. Carrells were put in where there was room. You can see :hat the shelving in the center is only three shelves high, acting as a divider ınd enabling the librarian to have visual control of the entire room at all times. Here you see the reference area at the end of the large room, with the card catalog, and the professional library on one wall and the general reference on the other. A view of the opposite end of this room shows the fiction on the back wall and the dividers.

Now we go into the middle room which is the AV area. Along the walls are tables our carpenters erected and covered with plastic tops. The electrician installed stripping above this with plugs for the hardware. The opposite side of the room shows students using the materials which the teachers have selected. The next room through is the science and technology room. In here are regular desks for students, with book stacks on two walls.

To expand our available shelving, we have reserved books selected by the teacher and placed on book trucks. They may be used in any part of the library suite, or wheeled to the teacher's classroom for use. In addition to the trucks we have a limited amount of shelf space in each area for reserved books.

We encourage our students to pursue knowledge independently. Our Learning Resource Center is designed with the idea of facilitating the use by the student, or teacher, of our print-non-print materials.

Let's explore these areas first as a student uses them in a Research Instructional Packet, and again as a teacher explores their possibilities. The first overhead is to orient you with the Learning Resource Center. It is divided into three parts. The large room seats 55 students and contains the Humanities and English section at the far end, with the Social Studies area just left of the door. The middle room has a seating capacity of 20. Here the AV equipment is used. The third room is the Science-Technology room, seating 30 students at desks. This makes an overall capacity of about 100 students who may use the center at one time. This one starts to break it down into the individual rooms. Here is the Social Studies area, with the reference books and reserved books on this side. Further is the English-Humanities books with the respective reference material. Dictionaries are placed around the room in strategic places. On the back walls are the fiction books with the biographies on the low stacks which act as dividers. The librarian's desk is at this end, with the card catalog nearby. The professional table and shelves are at the right of the door, and the general reference on the end wall. The magazines are in back of the check-out desk, close to the librarian to save her steps in the teaching and using of the Reader's Guide with the students. Through the door is the AV room, with viewing tables along both long walls. The larger storage area for AV software is here, with the microfilm readers and storage space across the narrow room. Our pamphlets and pictures are in the files by the windows, with the filmstrip reserves on this vertical board. The student may proceed into the Science-Technology division. Shelving holds the books and at the left are reference and reserved materials.

Show sheets. These are copies of the last two overheads. These are given to each student at orientation, and he is asked to identify certain sections to become familiar with the various areas. A sample of the passes, printed on two colored paper... white ones come from study halls, and yellow ones from classrooms. Thus the librarian knows from where the student came, and by this line he designates explicityly what he is researching -- clarifying the work to the staff should he need assistance. Not "New York State" but "Houses of New York State" would be written here. As a student comes into the AV room, he takes one of these slips for a report to go in his notebook for review, or to show the teacher he has completed the assigned work. These sheets were designed by our reading specialist, Mrs. Martha Farley. We print them by the thousand. There is no limit to the number a child may use.

Here are samples of the sheets, if you wish one. We encourage students to reserve equipment or materials prior to coming to the AV room for a special bell (class period). On my desk is a copy of this form, whereon a student designates the hardware he wants and when. Like many of you we have neither the space, equipment or outlets to serve but a limited number of students at one time. Frequently teachers reserve a block of equipment by bell, day or week for group use of viewers, or the larger projector and portable screen.

While we are on the topic of equipment, this is a list of hardware kept in the AV room for student use. Two cassette players, one 35mm strip-slide projector with a portable screen, a loop projector, an overhead, two microfilm readers, a tape recorder, two record players, and 11 filmstrip previewers. This takes up all of the outlets and a little bit more. We switch equipment around as needed to accomodate the media being used. This is a list of the equipment assigned to the teachers to use in their rooms, permanently placed there for the year. In June it is collected, cleaned, repaired if necessary and stored for the summer. (Let them read this overhead list) As you see, there is a variety of equipment, and we try to place it so no teacher has to carry hardware from floor to floor -- they borrow from a neighboring room if they do not have it themselves. The one exception is the 16mm projectors. They are kept in the AV room and signed out on a day to day basis.

This is an inventory of the software taken each June, showing how it has grown. Many of our visitors say, "Oh, but I don't have enough materials to do this!" Of our first 300 filmstrips, many came out of teacher's desks and we discovered duplications. Central processing and storage has eliminated this money-consumer. We now have over 1100. Our slide inventory has varied. We weeded out those not oriented to our curriculum. Other media has grown. These are commercial transparencies only. We make no endeavor to keep track of the individually made ones, or those locally designed and kept in a teacher's desk. They are at a teacher's fingertips and never returned to the library. Our pamphlets and picture files were started in '67 and '68 -- these are mostly free literature or articles cut from magazines discarded by teachers, friends or the library. It was greatly enriched by the cleaning of the vertical files of the public library. We say "Yes" to every offer and gleen much from materials others discard. Figures are difficult - this is a picture of the growth of inventory in software. Filmstrips lead the trend each year, as other media have crept upward. This is the inventory of print -- non-print materials in the Learning Research Center as of June 1970. You note we have a wide variety of media represented. This is supplemented by the local BOCES library, fortunately located only a block away. Also, there is a cooperative inter-library loan program within the school system. Should we need elementary materials for our Special Education group, I call on Miss Fairbank at her library and she graciously sends it down for a few days. Likewise, when materials are needed for the exceptional student I ask Mr. Lawson if his teachers at the high school are using it, and may we borrow it? It works both ways - sometimes we can help them with their needs. It's wonderful to have a group working together.

This is the use of the software from '65 to '70. First year there were 1000 students viewing filmstrips; last year we had over 8900. This is just students, assigned by teachers, who looked at filmstrips in our room. Media used in the classrooms are not on this inventory. There is large classroom use. Slides fluctuate. One teacher who assigned them extensively has retired. 8mm loops are not owned by us, but borrowed from the high school or BOCES. We feel these figures indicate that the teachers show their preference for having assigned materials used by individual students in the AV room. This is a picture of the

filmstrips and other media used in the AV room over the same period. Filmstrips lead the way, with other materials following the same pattern.

Every student has orientation of the Learning Research Center in the 7th grade, a brush-up in the 8th grade, and individual assistance as a student needs it in the 9th. Here is the librarian teaching a 7th grade group in the Science-Technology room. As you can see along the walls are filmstrip viewers, record players, etc. At the right is the portable screen for group viewing. In the middle are two work tables where students may look at pamphlets or pictures. Students at the sides are viewing filmstrips while writing report sheets. At the rear is the 8mm loop machine, and the microfilm reader is on the left. Here a teacher watches the reaction of his students as they view 8mm films he has selected for their use in the AV room. Later he may collect and check the report sheets, or more likely give a test based entirely upon materials assigned to be viewed here.

These slides show the pamphlet and picture files. They are available to the students to carry to the table and peruse at their own reading pace. Material from the narcotics file is in this one. Some are purchased, others were cut from magazines. The filmstrip reserve box is fastened on the wall, with the teacher's selections under his name. We feel our carpenter did an excellent job in constructing this for us. This room is designed to accomodate as much AV material as convenient, have it available to the student with as little confusion as possible, and yet not interrupt the smooth flow of traffic between the units.

"Today we need the physical integration of media. Storage should be in close proximity of as many learning materials as possible. We need open display and easy access to promote media uses, broaden the learning experiences and have the various media supplement and reinforce each other."-- Mr. Muller, School Library Journal. This is the type of activity we endeavor to promote in our Learning Resource Center to encourage the wider use of the print and non-print materials in the student's independent study.

To assist the student in every way, a librarian or teacher's aide is always at the desk if the teacher is not there with the class. All of our materials are classified under the Dewey system. A student learns to relate the subject and number because the elementary libraries use this system, as does the high school which follows us. We try to have materials in the building, to allow the teacher to have what he wants when he wants it.

Frequently teachers wish to reserve areas of the Learning Research Center for the use of parts or all of their classes at a certain time. This is the schedule which is on our librarian's desk, designed by our principal. Last year we had 608 groups using these sections. Here it is filled in with the teacher's name, and perhaps the grade or subject covered. By having it reserved several days ahead, the librarian is able to select materials and prepare for special problems. A science class is in one area, and an English class in another. This Special Education class will be in the large room while a science class is further away, not distracting from the group possessing a short interest span. They need the undivided attention of the librarian. Likewise the "Core" group of slow learners and low readers need her assistance.

Samples of the full size sheet. This teacher has his entire science class in the Science-Technology room. Viewing materials may be utilized by part of the class, while others use print materials under his guidance. Our staff works interchangably from room to room. Each one assists the student when he needs it, be it with a reference question in a book, a filmstrip, or seeking help with the Reader's Guide. Although each one has her own room to oversee, and specific work to carry out, we work together for the one purpose of helping the student help himself.

Along with the library coverage of a subject, many teachers have multi-texts in their rooms. Some have as many as six. These are books of about the same subject, but written for different levels of reading ability and interest. No texts are kept in the Research Center. This pictures a group of texts in the back of a room, with an encyclopedia at the top. Adjacent to the books you may see a teacher's AV area in her own classroom. This teacher has her books in holders along a window at eye level to encourage the student to explore the different books available in the classroom for his use. This is a multi-text collection interspread among the desks and readily available. These children seem to be deep

in the fascinating thing of paperbacks. Multi-texts are placed along the back wall beside the aqarium. I don't know if this were just a space problem, or as a yougster looks at a fish he might be more inclined to go over and pick up a book. Some classrooms have a magazine collection. This happens to be a slow learning group, where the pictures in the National Geographic have extensive appeal.

In the AV room we have a cardex file. There is a group of cards for each unit taught in the various subjects -- art, English, science, social studies, etc. This is not a duplication of the card catalog. It lists the subject matter of a unit -- the filmstrips, records, tapes -- even magazine articles an instructor has found to contain pertinent information. The file is adjacent to the filmstrip storage area, enabling the teacher to pull the material, glance at it, and still have her pencil in the file. It is made up as a helper and time saver for her. I know it is recommended that all the material on one subject be housed in one area. Spacewise this is impossible for us to achieve. The next best seems to be for us, the AV department, to be sandwiched between the rooms with the unit file to unite all parts in one place.

This overhead shows an enlarged unit card or cards. Subject headings in the card catalog give much information, but it cannot go into details, for space does not allow it to explore the sources the unit card can. The name of the unit may not be identical to the one the teacher is researching, but the materials may be relevant. As you note, these are also color coded to match the cards in the card catalog. We follow standard color coding for non-book materials. The inclusion of certain magazine articles are warranted for these are not listed in our Reader's Guide, yet some teacher has recommended them.

Our books are listed. Thus a teacher knows about how many titles are available for the unit. If there are only a few, such as on crystals, she adjusts her unit to it. Folklore has many books; she may reserve some and have the students take out the others without overnight restrictions. Below is a materials card. These samples give you some idea of our socalled "Unit Cards". They are updated continually as new print and non-print materials arrive, or new units are created. Sometimes the subject of the pamphlet file might not be identical with the unit -- ie. Age of Homespun unit needs materials from the local history files of Norwich and Chenango County -- and this reminds the busy teacher to look these up. Cassettes have the same color as tapes. Then we have, as does every library, "See and See Also" cards. This is the science drawer, directing the teacher to go to the social studies file. Overlapping units such as "Longitude and Latitude" are studied in the 7th grade social studies and 8th grade mathematics. The teacher makes the selection from all the materials available. Grade is not considered on the unit cards.

This overhead was drawn up to help the students associate color banding with the type of media it catalogs. It is indicated on every card in the upper left corner, but this jogs their memory. If the teacher desires transparencies made, they may be processed from materials prepared by her or with the help of the AV department. Frankly, we do not have the money to buy many transparencies. We use 3M, newspapers, pictures and original work. Artistic perfection is not necessary -- just get the idea across. This also helps the student to feel he may express himself without drawings that have the look of professional work. We discourage tracing. A teacher may have an item copied on the book copier, but students are not encouraged to do this at the Junior High level. We strive for individual research, not a copy of anything.

This is our Librarian, Miss Stafford, looking at a unit for a special project. If she should wish to use this material for a unit, the cards may be pulled, put through the copy machine and a complete bibliography of all the print and non-print material is available for that particular subject. From this she may make her own completed bibliography, or have a master made and a copy given to each student. These cards are not open to student use. Tapes and cassettes are at her fingertips, and across the room is the microfilm reader and Reader's Guide.

This teacher is previewing material for assigned student use, for his classroom, or perhaps he is previewing a possible purchase. New media is previewed by the teacher as much as time permits. We try to schedule previewing to coincide with the teaching of a unit. An instructor has a more favorable reaction to seeing the Civil War materials when teaching it. Too, he can judge the reaction of the class by using it directly in the teaching process. Not only are the good points

brought out, but faults stand sharply in focus. The salesmen are most cooperative. We appreciate their suggestions. Familiarity with the curriculum and teacher consultations are most necessary. We welcome their ideas. I have had great co-operation from my faculty in selection, sharing and evaluating media.

Now you are familiar with the areas of the Learning Research Center used in the RIPS program. This individualized instruction uses the classroom and multi-texts, the library research center for materials, the laboratory for personalized experimentation and the community for independent study and field experiences. It is a Developmental Learning Skills Program, which has been developed and written by our principal Lyman Anderson.

As this bulletin shows, the RIPS is programmed material in which the student individually researches, investigates and draws conclusions on a specific concept, theme, topic or unit while learning identifiable learning skills. RIPS are sequentially developed, permitting the student a wide latitude of opportunities. The teacher plays the roll of the resource person, etc. The rationale: the RIPS provides the pupil with wide opportunities to

Explore his own world
Develop independence
Develop skills of learning
Be responsible for his academic growth
Become self-motivated, self-directed, and self-involved in the learning process.

This is a smaple of our NJHS Resource Unit Planning Sheet which is used by our teachers. On this condensed version, of this larger sheet the teacher forms his unit. In the classroom are the multi-texts you saw in the slides. Bibliographies may come from the card catalog or relative units from the unit file. The resource people may be a teacher or a locally interested person. Objectives list the concepts to be learned, the skills developed, and the values we hope the student will acquire. Key questions are listed, and choices made for all levels of learner. Activities are likewise scaled to various abilities. Requirements may be general or specific. When completed, the RIP unit is a complete teaching plan.

These blue folders are given out to the student when he starts a RIPS program. It is designed to hold the notes of the investigator, as well as assist him with methods. Our administrators spent much thought and time in making this a working folder -- the library plan is here, study helps, learning skills, as well as directions for writing a paper. You are welcome to look at it later.

The teacher has his plan sheet -- here is one made up for the student to use. After selecting his individual research problem, he must list these items and have it approved by the teacher before proceeding. Thus a student does not attempt to work on a project for which we do not have sufficient materials in the area. Also, to facilitate the use of the RIPS and enable the student to complete it at the proper time, we give him a schedule to follow. Budgeting time is an important part of the learning process.

Cassette recorders are available to students to go into the community for interviewing local residents. Prior to going, an interview sheet must be thought through. We do not expect a student to undertake an interview unprepared. This would not only spoil the entire program, render it negligible, but consume time of busy people in the community. An appointment is made, and courtesy taught thereby. He should familiarize the person with the object of the interview in a concise manner. Key questions are written out to elicit the information desired. After the interview, a short report is complete.

This is an overlay from a graph unit of Mr. Ray Farley, our 8th grade mathematics teacher. I selected this because we seldom think of math as an individual research subject connected with the library and community. This overlay is the materials listed under the parts of the unit sheet. Read .....multi-texts, etc. as listed. Note specifically he has included local community resource people. The reading skills in a math unit are shown, with vocabulary listings and the place the student will find the answers written. The research required is adjusted to ability levels. Note the activities range from the slow to the average student and beyond to those capable of extra credit work.

On these graphs the student is led through the graphing process with these programmed overheads, explicitly describing its growth. The student is encouraged by the teacher to come to the overhead and use them. Finally, he is asked to present some graphed material from self-collected data. This may be simply a bar graph, using names and figures supplied by the teacher for interchangability, or elaborately made up by the individual. He has learned the skill listed in the unit.

Our furniture does not match, our chairs and tables are of various hues. We do not have a large inventory of everything, but every item works. Like you, we never have enough to go around. Any item standing in a closet is a waste of money we do not have. Teachers interchange equipment when needed. Our faculty has been most cooperative in adjusting to the situation and sharing equipment. Odds are heavy that we will all have to improvise and try to be creative, innovative media specialists in the years ahead. When a student finishes a project, comes beaming into the Learning Research Center with a completed report on the effects of a particular narcotic or displays a model of Shea stadium, it is the moment we feel success is ours. We have managed to involve the student, enabling him to identify precisely what he should be able to do, thereby proving he learned what we wanted to teach him. The resulting report or model is our test to ascertain if our program is valid.

INQUIRY TEACHING THROUGH NON-VERBAL FILMS

by Dr. Leonard W. Ingraham, Director
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Setting the Stage - What is Inquiry

"Inquiry" contrasts sharply with "expository" teaching, which TELLS or SPOON-FEEDS the student everything he will need to know.

In an INQUIRY-ORIENTED classroom, the questions asked, and the procedures followed, may be more important than the answers.

The student's job in INQUIRY, is finding out for himself.

The teacher's job in INQUIRY - Guiding, Advising and Prodding with challenging questions. This kind of help is especially important to students who have been viewing films which TOLD all the answers.

Expository films have a role in INQUIRY TEACHING. The teacher should NOT be a passive guide. Film producers have to be encouraged to prepare non-narrative films which encourage students to LEARN HOW TO LEARN.

Some Strategies for Using Non-Verbal Films

INQUIRY is the power plant in the classroom
DISCUSSION is the fuel that keeps the power plant operating effectively
DISCUSSION offers the student the opportunity to:

- Engage in "impulse" - the seedbed of thought
- Refine hunches and hypothesis through dialogue with fellow students and teacher
- Prove the generalization or conclusion

SOME GUIDELINES

Establish the right atmosphere for viewing and discussing
Insist the class establish objective standards for facts, opinions, evidence. Sources of information must be considered; value judgments must be made.
Students should have real knowledge of important facts.
Initiate discussion by asking questions on a specific, concrete aspect of the film.

Some Features of Non-Verbal Films

They have sound; may have music.
They have NO NARRATION.
They may be: silent; single concept; loop film.

Their format may be varied

Non-Verbal film may be:

Open-ended
Case Studies
Comparative or constrasting situations
Fanciful
Realistic

Non-Verbal films:

Stimulate the IMAGINATION, CRITICAL THINKING AND CREATIVITY
Set moods
Develop CONCEPTS
Tell stories.

Some Strategies for Inquiry

No single "mode of inquiry" can serve every inquirer.
Procedures or strategies vary with PURPOSES of the films as well as with kinds of evidence in the films.
Inquiry should include a series of probing, complex actions - NOT merely finding the answer to one question.
Intuition comes into play; utilizes hunches, inductive reasoning, drawing of inferences and conclusions.

Some basic steps in use of non-verbal films for INQUIRY:

- Look for tentative answers
- Test the tentative answers
- Draw conclusions

Some Sources of Non-Verbal Films with a few representative titles

Sterling Educational Films . . . . . Places People Live
241 E. 34 Street, New York, N.Y.
SIM Productions-Weston Woods . . . . . Mr. Koumal; Shooting Gallery
Weston, Connecticut
Encyclopedia Britannica Educ. Films. . . . . The Blue Dashiki; Discovering The Forest - 425 N. Michigan Ave. Chicago, Ill.
International Film Foundation. . . . . Julien Bryan Productions
475 Fifth Avenue, New York, N.Y.
Learning Corporation of America. . . . . Boomsville
711 Fifth Ave., New York, N.Y.
Crowell Collier & Macmillan. . . . . The Red Balloon
866 Third Ave., New York, N.Y.

THE CARE AND FEEDING OF INSTRUCTIONAL MATERIALS

INTO THE "COOL" MEDIUM

by Dr. Ronald R. Nicoson
Ithaca College
Mr. James S. Coons
Bainbridge-Guilford Schools

The purpose of this presentation is to demonstrate the process of pre-production planning (THE EXCHANGE OF IDEAS AND METHODS) between the teacher and the media specialist - where instructional television is concerned. The observer of this demonstration should be able to identify and define objectives and procedures contained in the process.

OUTLINE OF THE PROCESS

The pre-production planning session for ITV eventually narrows into an exchange of information/objectives between the subject specialist (the teacher) and the media specialist (the producer).

VISUAL #1 Teacher/Producer/Objectives

"Statement concerning the specific responsibilities of the teacher/producer in the design process"

VISUAL #2 "The discussion includes a description of the behavior objectives
Step 1 expected as a result of the lesson. This can be narrowed to the following concepts:"

VISUAL #3
(a) what is to be learned .... content
(b) how well .... level
(c) how soon .... rate
(d) with what response .... mode

VISUAL #4 "After describing the lesson objectives, the teacher presents a capsule of the lecture content.
Step 2 This may take one of three forms:

(a) full script format
(b) outline format
(c) scattered notes format

VISUAL #5 "Teacher and the media producer discuss the specific informational
#6 points of the lecture relative to the following:
(a) what is important to the learner
#7 (b) what the learner must perceive thru reinforcement
(c) discussion of the varied approaches to reinforcement through media.

VTR insert here:

	EXAMPLE	RUNNING TIME
		3:00
#1	Serling's Program #1 Introduction to demonstrate edit inserts and producer's final editing and assembling choice available.	
#2	Nicoson on advertising Introduction, to demonstrate the use of "word" labels, visual inserts, supers, variety of TV techniques for emphasis of concrete ideas.	3:30 (opening)
#3	Serling's transition re statement on Owl Creek Bridge insert ....to demonstrate the visualization of an abstract idea:	1:30 (closing) 1:00 (opening) 1:30 (Owl Creek)

---
stop tape

VISUAL #8

Step #4 "At this point the teacher and the producer must backoff from the materials for a "total information" review. The intent is to examine the IMPACT of the message, relative to the original intent stated.

At this point alternative methods of presenting ideas are to be discussed."

VISUAL #9

Step #5 "The producer then designs the mediated ideas." These materials together with the outline script are compared to the original message intent....for "fitting" the goals. The teachers make suggestions, and changes are made."

(A BRIEF SELECTION OF CHARTS, ACTUAL VISUALS ARE TO BE INSERTS "LIVE" HERE TO DEMONSTRATE SOME OF THE MORE COMMON PROBLEMS, AND ERRORS TO BE AVOIDED)

VTR insert here:

#4 Brodhead's "outdoor advertising" insert to demonstrate electronic effects through special equipment, to provide "keying" emphasis on data. :40

VISUAL #10
Step #6 "The teacher confers with the producer, and necessary assistant in a verbal "run through". This usually takes place in an informal way, possibly in the office atmosphere."

VISUAL #11
Step #7 "The teacher is then introduced to the production facilities... that is, to those portions relevant to his production. Explanations relevant to a smooth operation are explained such as:

VISUAL #12

studio / etc. materials / etc.

communications / etc.

VISUAL #13
Step #8 "All media materials are prepared in final form."

VISUAL #14
Step #9 "The producer coordinates and updates all information, ideas, and changes with the teacher."

VISUAL #15
Step #10 "Pre-taping run through occurs"

VISUAL #15
flip...
Step #11 "The final taping occurs"

VISUAL #16 REMINDER THAT THE ENTIRE PROCESS IS NOT COMPLETED UNTIL AN EVALUATION AND SUBSEQUENT RE-DESIGNING HAVE OCCURRED. THIS IS ALWAYS AN ON-GOING PROCESS.
CLOSING:

VTR INSERT ...showing the closing of one of Serling's ITV programs with credits.... 1:30

REPORT ON CLASSROOM UTILIZATION OF SESAME STREET IN THE CHANNEL 13/WNET BROADCAST AREA

by Mrs. Jane Redmond
Educational Broadcasting Corporation
Channel 13/WNET
304 West 58th Street
New York, New York

INTRODUCTION

The Educational Broadcasting Corporation is a non-profit educational institution chartered by the New York State Board of Regents and incorporated under the New York State Education Law.

It operates Channel 13/WNET as a non-commercial educational station. This is licensed by the F.C.C. in Newark, New Jersey, to serve the New York, New Jersey and Connecticut metropolitan area. With its expanded transmission facilities, approximately 16,300,000 people can view Channel 13's programs. The School Television Service of Channel 13 broadcasts instructional programs to school systems, institutions of higher education and business and industry in the New York, New Jersey and Connecticut areas. In the total Channel 13 broadcast area there are approximately 3,000,000 students who attend school in grades kindergarten through twelve. The services of the School Television Service include consultation, utilization advice and software for the many programs broadcast.

BACKGROUND

The School Television Service of Channel 13/WNET began broadcasting SESAME STREET during November 1969. Letters and telephone calls were received from teachers and school administrators requesting program information and teaching materials. This influx of requests was the impetus for this survey. The problem was how to provide services most effectively. Specifically:

(1) How to determine the kinds of teaching materials needed for a program that was not designed for classroom use.

(2) How to obtain the source information needed to create teaching materials.

(3) How to determine the number of teachers needing materials from the School Television Service.

(4) How to distribute the software.

(5) How to explain and illustrate the educational objectives of the program in relation to current curriculum needs.

A MASTER PLAN

To fulfill these objectives creatively and efficiently, the School Television Service of Channel 13, the broadcasting agency, and the Children's Television Workshop, the producing agency of SESAME STREET, began working cooperatively. A plan for determining and implementing utilization of the program was then developed. A utilization survey and information campaign was conducted via mailings, on-air "spots," and regional SESAME STREET teacher workshops conducted in the Channel 13 broadcast area.

Two mailings of complimentary copies of the SESAME STREET Parent/Teacher Program Guides to A-V Coordinators in School Television Service member schools included a questionnaire to be completed and returned to the School Television Service. This form, indicating classroom utilization of SESAME STREET (grades, number of classes, number of students), was used to determine the number of Parent/Teacher Guides needed for successive mailings. (See Appendix A). Other mailings included "A Unit Approach for Using SESAME STREET in the Classroom" (see Appendix B) and a nomination form for the School Television Service SESAME STREET creative teaching award. (See Appendix C).

After providing the Parent/Teacher Guides and other supplementary materials for six months, a sampling of classroom utilization of SESAME STREET was taken. In each of two final mailings of the Parent/Teacher Guide were enclosed master copies of "Classroom Utilization of SESAME STREET" (see Appendix D) for duplication and distribution to those teachers receiving the Guides. These were completed and returned to School Television Service.

The on-air promo spots described the SESAME STREET Parent/Teacher Guides and how they could be obtained and requested nominations of teachers for the SESAME STREET Creative Teaching Award.

Regional workshops were conducted at School Television Service member schools. Parents and personnel from School Television Service non-member school districts, day-care centers, and community development grassroots projects were invited.

TABLE I

Location of Regional Workshops	Attendance
Yonkers, New York	125
Yorktown Heights, New York	158
Elizabeth, New Jersey	160
Lawrence, New York	118

Hand-out kits containing SESAME STREET Parent/Teacher Guides, a complete bibliography for the teachers use in preparing in-class supplementary activities for each program, questionnaires, background information, and a descriptive outline of the educational objectives and format of SESAME STREET were supplied.

A film provided by the Children's Television Workshop containing sample segments of SESAME STREET was used to illustrate the educational objectives outlined in the handout kit. It stimulated teacher discussion about (1) the use of SESAME STREET in the classroom and (2) the implications of the program on teaching techniques and future curriculum changes in the primary grades.

RESULTS

Questionnaires were sent to approximately 140 member school districts and individual schools for duplication and distribution to the teachers of the lower grades. The ratio of the number of questionnaires received from New York, New Jersey and Connecticut is best interpreted in relation to the number of School Television Service member schools in those areas. (See Tables II, III, IV, V).

TABLE II

School Television Service Membership

	No. of Districts	Percentage of total membership
New York	92	52%
New Jersey	66	37%
Connecticut	20	11%

TABLE III

525 questionnaires were completed and returned from approximately 58 districts and schools in New York, New Jersey and Connecticut.

	No. of Responses	Percentage of total	No. of Dist. Responding
New York	243	46%	31
New Jersey	229	44%	22
Connecticut	53	10%	5

TABLE IV

SESAME STREET utilization in the classroom as of January 12, 1970

No. of School Districts Responding		No. of Classes	No. of Students Involved
New York -	34	315	8,312
New Jersey -	26	117	2,504
Connecticut -	18	83	1,147
	78	515	11,963

Note: These are approximate figures -- some teachers indicated using SESAME STREET but did not give figures (See Appendix D).

TABLE V

Utilization of SESAME STREET in the classroom (See Appendix E) as of June, 1970

	Always	Sometimes	Never
New York	9%	48%	43%
New Jersey	5%	38%	57%
Connecticut	12%	39%	49%
Average percentage of total number of responses	9%	42%	49%

Of those answering 'always' or 'sometimes' (51% of the total) the following figures are average percentages in response to more specific questions:

1. Use the entire hour of broadcast for classroom viewing 12%
2. Use only part of the one hour broadcast for classroom viewing. 34%
3. Adapt segments of SESAME STREET to fit own aims and teaching format 35%
4. Use SESAME STREET as a "happening" -- that is, from post-telecast discussion of certain segments the teacher spontaneously determines and formulates classroom activities 31%
5. Students watch SESAME STREET during their "free" or lunch periods. 15%
6. Use SESAME STREET in teaching mentally handicapped children 7%
7. SESAME STREET helps stimulate student discussion about themselves -- their relationship with their friends and family physical home environment 34%

Of those who never use SESAME STREET in the classroom (49% of the total responses):

	Always	Sometimes	Never
Uses SESAME STREET as a home work assignment	4%	28%	68%

The program was used in grades K-9. Specific statistics of utilization in various grade levels in specific geographical areas are available.

Because the program was not designed for classroom viewing, the individual percentages do not represent an evaluation of the program or its validity for use in schools. They do indicate that 51% of the teachers involved in the sampling have found various ways to use the program in the classroom. And of the 49% of those who do not use the program in the classroom, 32% suggest to their students that the program be viewed at home.

IMPORTANCE OF THE SURVEY

The survey is a model from which to work in conducting future utilization evaluations of other ITV programs at the School Television Service. In order that the program may be best utilized in 1970-71, the data has provided the School Television Service Program Manager, Curriculum and Utilization Executive Councils, with information needed to suggest appropriate scheduling of the program. The program is scheduled to be aired at 9:00 a.m. and repeated at 4:00 p.m.

The workshops stimulated dialogues among teachers and administrators about curriculum changes and teaching techniques. Following the workshop conducted at Yorktown Heights, New York, on February 5, 1970, first grade, nursery and kindergarten teachers seemed in general agreement as to the need of a continuous dialogue by kindergarten teachers not only on the implications of SESAME STREET, but on the appropriateness of the curriculum now used by the area schools.

On February 17th, fifteen kindergarten teachers and elementary school administrators met at the BOCES Curriculum Center to continue discussing the implications of SESAME STREET and their kindergarten programs. Talk began with an assessment of the program presented by the SESAME STREET officials and evolved into an evaluation of the program, its effect on children and shifted to the philosophy underlying the kindergarten program in each of the schools represented. It became evident that the ten kindergarten teachers present, representing ten school districts, had no commitment to one kindergarten philosophy. Growing out of this meeting were some of the following recommendations:

> Kindergarten teachers should teach the concepts so ably presented by SESAME STREET. If segments of SESAME STREET which deal directly with individual concepts could be made available to each teacher, these could be valuable teaching aids.
>
> In some kindergartens, the curriculum is based on academic goals while in others, academic teaching is solely for enrichment purpose. Since there is not any clear philosophy dominant, a need exists to examine the kindergarten curriculum and develop strong guidelines.
>
> Each kindergarten teacher should have available to her the SESAME STREET schedule with indications of the concepts to be taught each day.
>
> As each kindergarten teacher evaluates her new pupils each fall, she should identify the concepts which are already a part of the child's understanding and the extent to which SESAME STREET was viewed the previous year. Even a kindergarten pupil can be bored.

The morning ended with a strong plea from the teachers for a 10 day summer workshop for kindergarten teachers of the area. Those present were anxious to generate a viable philosophy, to develop a standard for the academic and the socialization needs within the kindergarten programs, and to find out what research has to say about the present kindergarten child as compared to the pre-TV youngster. Finally, the need was expressed to write a pilot kindergarten curriculum enabling incoming first graders to cope more effectively with the school and social environment of the 70's.

CONCLUSION

This study was made possible through the cooperative efforts of the School Television Service of Channel 13/WNET, a local public television station, the Children's Television Workshop, a national television producing agency and School Television Service member school systems in New York, New Jersey and Connecticut. This total kind of working relationship demonstrated an important area for the development of ITV utilization in the 70's.

The work of this survey provided teachers and administrators with information about the program and software needed for its effective utilization. It stimulated school/community-teacher/administrator dialogues on the effectiveness of current school curriculum and the use of television in education. It provided the impetus for change, as evidenced in Yorktown Heights, New York. For ITV programs to be used creatively and efficiently by the classroom teacher, utilization services must be provided.

A Unit Approach for using SESAME STREET "Commercials"
for classroom study

AIM: To use SESAME STREET commercials for:

(1) developing aural and visual perception
(2) for teaching letters, sounds and words
(3) for teaching speech articulation
(4) for introducing story-telling and stimulating students to write their own verbal-visual stories

NOTE: Any of these four units may be used separately to fit your curriculum needs.

MOTIVATION:

(1) In preparing the students for this study, have them watch SESAME STREET for a number of weeks without pointing out the "commercials."

(2) A week before beginning this study, ask the students - "What are commercials?" If they cannot comprehend the word "commercial" play a charade type game or "name-that-tune" (in other words, whistle something like "Winston tastes good ..." until the children respond with answers such as, "That's Winston, Tide, Mister Clean, etc.")

(3) From student responses (using their own words) establish a working definition of what a commercial might be. Basic elements should be included:

(a) it has a message about people or things
(b) the message is conveyed in a special way -- through animation or film, music and words.

(4) Ask the students to each pick out one evening television commercial, to watch it carefully for the purpose of describing it in class the next day -- in terms of who does what to whom, when, where and why. Ask them to find commercials (advertisements) of the same product in newspapers, magazines, etc. or to bring in empty cans or packages of the product.

NOTE: This is a form of "show-and-tell" but it is a preparation for having the students create their own verbal-visual stories.

(5) In some way, establish the fact that the commercial has nothing to do with the "program" in form or content because the same holds true for SESAME STREET commercials -- this will facilitate identification.

Classroom Activities:

NOTE: The suggestions below can be developed and expanded in any number of ways in relation to any of the above listed aims and any number of the different types of SESAME STREET commercials discussed.

(1) Ask the children to identify the SESAME STREET commercials shown on the particular program of the day:

(a) in terms of the people, animals and objects involved -- this will require learning of new words which are spelled out and spoken on the commercial.

NOTE: For reinforcement any number of follow-up activities may be developed just from developing fun games using these new words.

(b) If the commercial is "presented in behalf of the letter ___" ask the students:

1. to describe (in their own words) the commercial in terms of the people, animals and objects -- who does what to whom, etc.

2. to describe the commercial in the words spelled out and used in the commercial. If the commercial is presented on behalf of the letter "W", then it will logically contain many "W" words.

   a. The students will recall them separately -- make a list of them on the blackboard.

   b. Then make a game of unscrambling them -- putting them togehter to form sentences -- try different versions until one sentence makes some sort of sense in terms of subject-verb-object relationship: the tongue-twister is born. (It does not have to approximate the word sequence of the SESAME STREET commercials)
   NOTE: This is where speech articulation comes in. It's a jump-off point in introducing other tongue-twisters.

3. The students might want to write their own commercials -- on behalf of their favorite letter -- to create their own tongue-twisters. They can illustrate it with either their own drawings or clippings of people and objects from newspapers and magazines. (Logically, these should begin with the letter chosen by the student.)
   NOTE: This assignment can serve as an introduction to story-telling.

Classroom Utilization of SESAME STREET

School _____

School District _____

SESAME STREET is designed to teach many of the basic skills usually covered on the elementary grade levels. Because we would like to determine its effectiveness for classroom use, please answer the following:

1. What grade level do you teach? _____

2. I, (1) _____ (2) _____ (3) _____
   always sometimes never
   use SESAME STREET in classroom activities.

   IF YOUR ANSWER IS 'never' go to items 3 and 4.

   IF YOUR ANSWER IS 'always' or 'sometimes' answer the following:

		YES	NO
(a)	I use the entire hour broadcast for classroom viewing.	___	___
(b)	I use only part of the one hour broadcast for classroom viewing.	___	___
(c)	I adapt segments of SESAME STREET to fit my own aims and teaching format.	___	___
(d)	I use SESAME STREET as a "happening" --that is, from post-telecast discussions of certain segments I spontaneously determine and formulate classroom activities.	___	___
(e)	I have my students watch SESAME STREET during their "free" or lunch periods.	___	___
(f)	I use SESAME STREET in teaching mentally handicapped children.	___	___
(g)	SESAME STREET helps me stimulate student discussion about themselves--their relationship with their friends and family--physical home environment.	___	___

(h) Other comments _____

_____

3. I, (1) _____ (2) _____ (3) _____
always sometimes never
assign SESAME STREET as a homework assignment.

IF YOUR ANSWER IS 'always' or 'sometimes'
answer the following:

In assigning SESAME STREET as a homework assignment,

	YES	NO
(a) The child must watch the entire program.	___	___
(b) The child has the option of watching or not.	___	___
(c) The child must watch the program for the purpose of describing it next day.	___	___

4. If you are not using SESAME STREET in the classroom, would you care to state your reasons?

_____

_____

_____

THE MEDIA AND THE LIBRARY: PROBLEMS AND SOLUTIONS

by Daniel Davila
Nassau Community College
Sister Anne Cecile Marrill
Dominican College

One year after their establishment in 1959, Dominican and Nassau Community Colleges started to develop an audiovisual program. As usual, the emphasis was given to the acquisition of equipment. Films and other materials were rented and purchased by the individual departments and were then considered the department's exclusive property. As a result of this policy, materials and equipment were misused, abused and soon found themselves in bad need of repair. Even when an audiovisual program did exist in these two colleges, there was still no coordination for the acquisition, organization and circulation of non-printed materials on a college-wide basis. It was not until the mid-sixties that these colleges established audiovisual departments to handle the circulation and maintenance of equipment as well as the renting and scheduling of films for the faculty for use in the classroom.

Reorganization of media services eventually occurred at both institutions. At Nassau, direction of the Audiovisual Department was entrusted to a professional media specialist, who immediately assumed custody of all audiovisual materials and equipment previously held by the various academic departments. The Language Laboratory and music listening facilities, on the other hand, together with their tapes and phonograph records were transferred from the language and music departments respectively to the Library. This new addition to the services provided by the Library determined the future directions in which the Library would go.

In 1969, the administration of the college decided to divide the Audiovisual Department into two sections: Media Operations, which was to be responsible for hardware, and the Media Resources Center of the Library, responsible for software.

Media Operations has absolute control over any A-V designated equipment on campus. This includes projectors, sound equipment, radio, and television. They establish equipment quotas for individual departments as well as the length of loan periods, and maintain an accurate inventory of location of each piece of equipment. They are also responsible for the evaluation, acquisition, distribution and storage of equipment.

Media Resources, headed by a media librarian, functions on a similar basis in relation to photographed and recorded materials, including films, filmstrips, slides, phonograph records, tapes, videotapes, etc. In addition, the Media Resources Center is responsible for the production of overhead transparencies, slides, films and video and audio tapes.

At Dominican College, the Library has been designated as the sole custodian for the audiovisual services. One of the college librarians supervises the facilities on a part-time basis. The A-V librarian is responsible for cataloging materials. The catalog is located in the college library and also in the media center in Rosary Hall. Materials are listed under author, subject, and title, on cards ordered from the Library of Congress whenever possible, and that format is used for cards typed on campus. The Dewey system is used since print materials are cataloged in this system.

Materials are ordered through the A-V librarian with the approval of the individual department chairmen. Films are rented from many sources and are restricted only by the departmental budget. Preview facilities are available and previews and purchases on approval are encouraged.

The thirty-six position Language Laboratory at Dominican College is administered by the language department. Materials circulate from the circulation desk of the Library. Transparencies and slides are also produced when required.

Nassau and Dominican Colleges have been exchanging information through their A-V supervisors since 1969, in order to solve problems common to most library media programs. A close relationship exists between the two A-V directors, which dates back to 1967 when they were working toward their masters in educational technology at Teachers College. Their interest in non-printed media as it relates to the library together with their actual work in this field became the basis for the "MEDIA AND THE LIBRARY: PROBLEMS AND SOLUTIONS" presentation at the 1970 NYSECA Convocation.

SELF-DIRECTED LEARNING

by Mildred K. Leahy, Principal
Evelyn Warnock, Teacher
Public School 28
Yonkers, New York

SCHOOL BACKGROUND

The program was carried on in an elementary school of four hundred and sixty students encompassing kindergarten through grade six. The school population is drawn from a typical middle-class, suburban community that is predominantly white. Most of the parents are professionals with many of them being teachers or school administrators. The children are achievement oriented in academic areas. They are extremely verbal and are under considerable pressure from home for academic

achievement and excellence. They are highly competitive and individualistic with an undue concern about marks and test scores. They can exhibit great creativity but many times the product takes on more importance for them than the process, particularly if material rewards are involved. The median IQ of the school is 112 and median reading scores (based on the New York State Reading Tests for Grades three and six) are in the seventieth to eightieth percentile range.

RATIONALE OF PROGRAM

We became concerned over the fact that, although these children have demonstrated the ability to achieve in certain areas, they have not developed the ability to think for themselves or to feel responsibility for their own learning. It became apparent that while they might have the ability to do these things we were simply not presenting them with the opportunity to develop their potential capabilities. Much of our school program is teacher-directed and the youngsters have learned how to respond in kind, waiting to be told what is expected of them.

We attempted to design a program that would enable children to learn how to:

Set their own learning goals
Recognize the skills necessary to achieve their goals
Organized course of action toward their goals
Evaluate the effectiveness of their own functioning

ORGANIZATION OF PROGRAM

We selected a group of fourth grade youngsters who had shown some evidence of being able to work independently and whose reading skills were considerably more advanced than those of their classmates. Although IQ scores were examined they were not given much consideration. The selection was based mainly on a subjective evaluation by the classroom teacher, reading test scores, and performance in the classroom. The composition of the group - four girls and four boys - was a purely arbitrary decision reached by the teacher and principal.

The children were told that they could select any topic that they wished as long as the end result would be of use to the school and/or the community. We also indicated to them that we would not tell them what to do, when to do it, or how to do it but that we would be available to provide whatever assistance they felt they needed.

Adaptation of the curriculum for a particular group of students - not an experimental program as such.

The program was carried on during the regular school day, the time spent on the project replacing the normal reading instruction of about 60 minutes per day. The time allotment, however, became more flexible as the program developed. No expenditure of funds was required since activities revolved around materials and equipment that were already available in the school.

The transcript which follows is from an audio-tape description of the program made by the children. It also includes their evaluation of their own performance.

TRANSCRIPT OF AUDIO-TAPE

Zoe: We selected as our project the History of Atomic Energy. We considered many different topics but we thought that many things are run by atomic energy and there would be a lot of things that we could do. It would be interesting for everbody - not just the boys. It has a lot to do with science and science can sometimes be more interesting than other topics.

Paul: We couldn't get a topic that the whole group agreed on so we took all the suggestions and we voted. The majority voted for atomic energy. We decided to make a Video-tape program on atomic energy so that we could show it to the other classes in the school and maybe to visitors and our parents.

Zoe: We read a lot of library books but we couldn't remember all the information. We had to learn how to take notes and how to organize our information. We wrote reports. We looked at filmstrips. We watched TV programs to get ideas for our tape.

Ronald: We wrote a script and made a video-tape. When we saw it we thought it was uninteresting and boring. Everyone just got up and talked. We couldn't see the projects. We just read our reports and didn't look into the camera.

Janet: We tried to figure out a better presentation. Then we thought of the idea of a laboratory background. Somebody thought of a time machine and we all thought it was a good idea. We decided to go back in time and interview some scientists.

The boys are setting up the science lab for our program. We are going back in time and interview some scientists in their laboratories.

They are trying to get the main idea of how the laboratory is going to be set up. They want to rearrange things so it will look like three different labs because we are supposed to be interviewing three different scientists.

Paul and Eddie are at the blackboard discussing how they are going to make the time machine. They are drawing different ideas to see how they look. They decided to work on it at home over the weekend.

Eddie: The girls are writing the camera script that we are going to use in our video-tape. They are trying to figure out which parts should be changed to make it more interesting.

We all got together to discuss the script. There was some disagreement about the distribution of the parts and we had to work that out.

Zoe: This is a rehearsal for our video-tape and that scene was of Paul and Eddie acting as professors who've just arrived in a time machine and they are in the lab of Einstein and Fermi and they have come to interview them.

It is taking a long time for us to get it just the way we want it.

We have just looked at the tape of our rehearsal. Are there any ways you would like to improve it?

Paul: We shouldn't keep putting our hands to our mouth all the time.

Eddie: And at the end of the tape Paul and I, I was always looking down to read the script and Paul was, at the end, had the script in front of his face so you couldn't see his face.

Janet: Well, we weren't moving around a lot. We were just standing and moving things around. We weren't really doing anything.

Joe: And if someone's talking we should pay attention to what they're saying.

Ronald: My face was being blocked by the bar on the table and you couldn't see my full face.

Susan: Well, Paul and Eddie, they didn't look as if they just came out of a time machine and a big explosion happened.

DO YOU LIKE WORKING INDEPENDENTLY?

Joe: It was fun working independently but it was harder to make decisions.

Eddie: There were no teachers giving assignments and special work to do.

MaryBeth: We learned a lot. We chose our own projects. Sometimes in class we may not want to do the projects that we have to do.

Janet: We make our own decisions like in the class when the teacher tells us what to do you can't always make your own decision because there are many children and they each have to have a fair chance.

WHAT HAVE YOU LEARNED?

Zoe: We learned about improving things like we do something and then we look at it and we decide how - what we are going to do to improve it.

Paul: We learned a lot of new skills. Reading skills and writing a report. We learned how to take notes. We learned how to get a lot of information on one subject.

Susan: We learned how to give our information to other people. One way was by using video-tape.

Ronald: We learned how to work without the teacher helping us. We learned how to improve our work by looking at other people's work.

HOW WOULD YOU CHANGE THE PROGRAM?

Zoe: Make up a set of rules because this year it was a little confusing cause everyone talked at once. Not rules from the teacher but our own that we make up because if the teacher gave us rules they would be harder to follow because we might not like them.

Eddie: We should have individual people working on the topic that they liked the best instead of all working on one topic.

Janet: If we were to do the same topic again we should all take turns doing different things because this year all the girls wrote the script and the boys were setting up the lab. We should sometimes let the boys write the script and the girls set up the science lab.

Paul: At the end of each day we should write down what we are going to do the next day - the plans.

Susan: I think at the end of every week we should have a meeting and tell what our progress was during the week.

Ronald: I think we'd be able to work in other subjects in independent study like math or English.

Zoe: We could try to think of other ways to get information from other places.

Paul: Instead of just talking all the time we could get more work accomplished by not talking.

EVALUATION

The children learned:

1. How to make decisions and how to accept responsibility for their own decisions. This became a necessity as soon as they discovered that no one was going to do it for them. It was a learning that came hard for them and required a good deal of patience on our part. The fine line between guiding and directing was ever apparent.

2. How to follow-through on long range goals. The project extended over a ten-month period and the need for planning and on-going evaluation was one of the items that the children recognized as a weak point in their work.

3. How to engage in critical self-evaluation. In the beginning, evaluation usually took the form of criticism of another's performance. As time went on, the evaluation became more self-directed in terms of the value of their own work for the entire project.

4. How to organize information and present it to others. This learning was evident in the work on the independent project and also carried-over into class work in other areas.

A FEW ADDITIONAL THOUGHTS

1. The selection of the topic seems to us to be very stereo-typed, reminiscent of typical school assignments. We feel that the youngsters did not really feel free to select a topic that they truly wished but rather selected one that they thought would win our approval.

2. We are not sure whether the interest that was evidenced and sustained through the year was a result of being able to work independently or whether it was a direct result of having been selected for the program. We would hope to extend this kind of learning to a regular classroom involving all of the children to see if the same patterns of behavior would emerge.

3. We also feel, as the children do, that they should have been given the freedom of selecting individual projects if they so desired. We did restrict the group to working on one project.

THE PROCESS OF INDIVIDUALIZING INSTRUCTION

by Olcott Gardner
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Woodrow W. Snyder
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Meeting the needs of each pupil as an individual is becoming the paramount philosophy of many schools in America. To adopt such an idealistic philosophy is easy and noble, but to develop an instructional procedure which implements the philosophy is becoming a knottier problem than most educators had expected. Many models have been tried; few have succeeded. Some successful techniques have encompassed only a narrow range of behavior or have been biased toward the extremes of the student population.

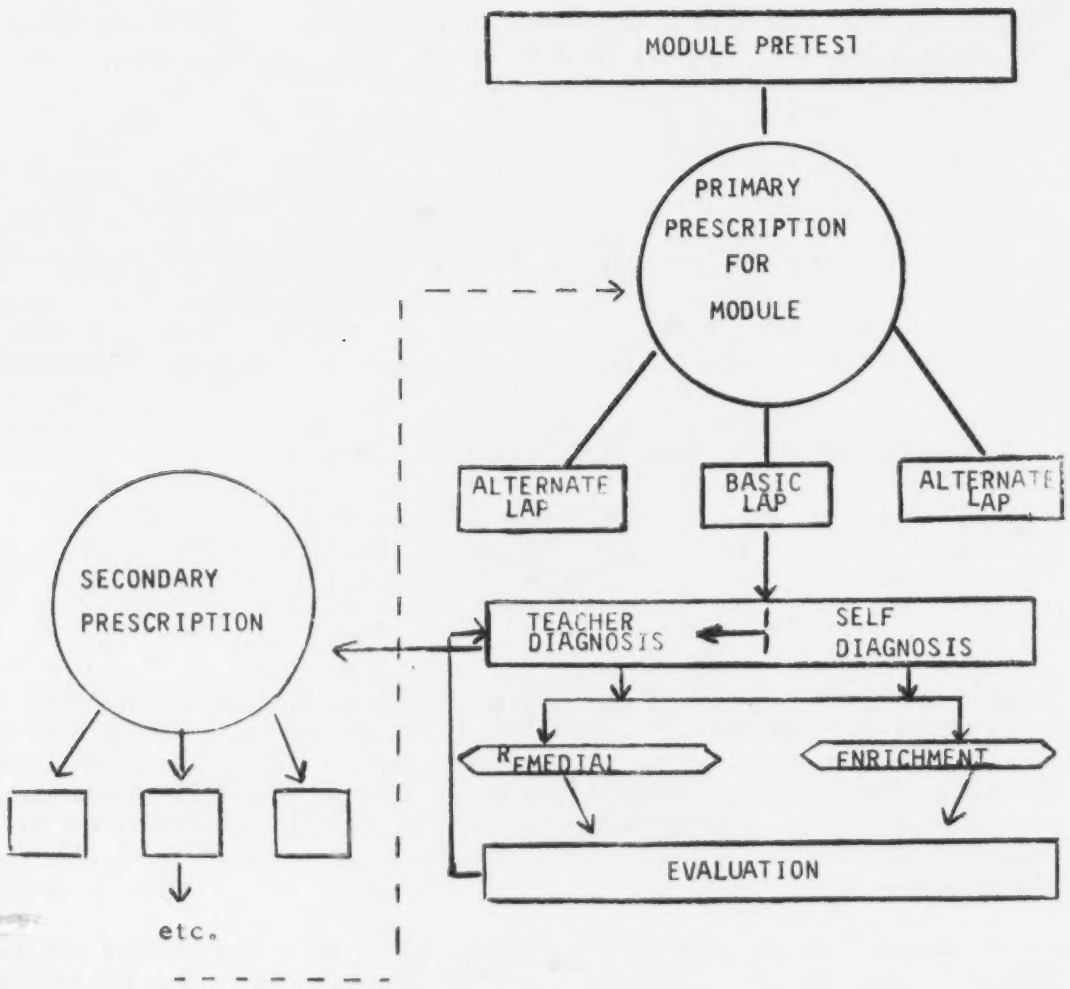
The model herein described is the first model to prove universal in implementation of all those tried by the Jamesville-DeWitt Schools. It is interesting that it has also proved to require the highest level of professional expertise and to involve a greater number of steps in a differentiated teaching staff hierarchy in its implementation.

Most "individually prescribed instruction" (IPI) programs have relied heavily on independent study techniques to the extent that many educators and most lay people consider them to be synonymous. Independent study tends to be sterile in many instructional modes and leads to a search for techniques which increase the individualizing process and allow for inquiry training in group situations and practice in group interaction. The J-D model has apparently succeeded in meeting these desired criteria, in fact, homogeneous pairing has proved to be the most successful instructional mode in learning activity package (LAP) implementation.

The pendulum swing toward independent study has placed the teacher in a role of designer and manager of learning opportunities for students in independent learning situations, rather than as the provider and dispenser of what is to be learned. Much of the latter role can be fulfilled by computers and instructional assistants but the product is often sterile in its motivational and implementation aspects and still falls short of the degree of individualization which most educators perceive as their goal.

The Jamesville-DeWitt model has proved to be successful in returning the teacher to an active pupil-contact role as a diagnostician and prescriber of instructional materials along with the classical duties of directing discussion of small and large groups and director of learning activity.

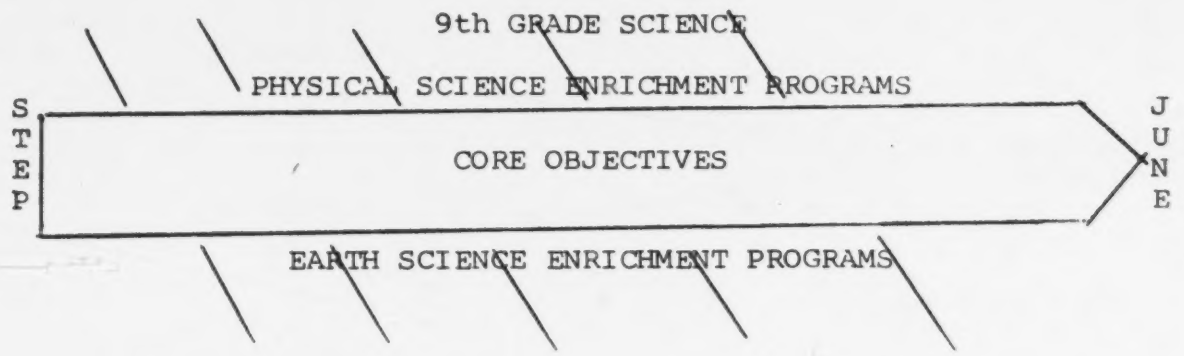
Courses in which the model is to be implemented are organized into "modules" which consist of a series of events arranged in a hierarchy of behavioral objectives leading to mastery of a single concept or group of related concepts. The following instructional model has emerged from over a decade of research and development in the Jamesville-DeWitt Schools.



The utilization of the LAP follows quite closely the procedure suggested by Sidney P. Rollins in "Developing Nongraded Schools" (1968). Variations are that the module pretest is used as a primary diagnostic tool along with the results of other social, mental, interest and achievement evaluations of each pupil to select the proper type of LAP and the hierarchy of LAPs in the module. Each LAP is designed around the smallest number of behavioral objectives as possible and secondary diagnosis is built into each LAP to provide both self testing by the student and criteria for a higher level of diagnosis by the teacher. Notice that all flow eventually returns to teacher diagnosis which elevates the teacher in the role of diagnostician to a very responsible key position.

It has been our experience that not all teachers possess the skill to fulfill that role nor do all wish to accept the responsibility. The evolution of a differentiated teaching staff is a natural process resulting from the implementation of the model.

Another result which we have found to be extremely desirable and only achieved through this model is to allow the pupil greater mobility in his learning status. A good example is in the 9th grade science program. Most schools offer 3 levels or courses in the 9th grade; General Science, Earth Science and Advanced (honors) General Science. Using this model, the fragmentation of students into separate courses in September from which or to which they cannot move during the year is eliminated. There are "core" objectives which are common to all three courses or levels. All pupils do the LAPs in the core, electing as they progress through each module those enrichment LAPs which their ability, interest or motivation dictates. (see diagram)



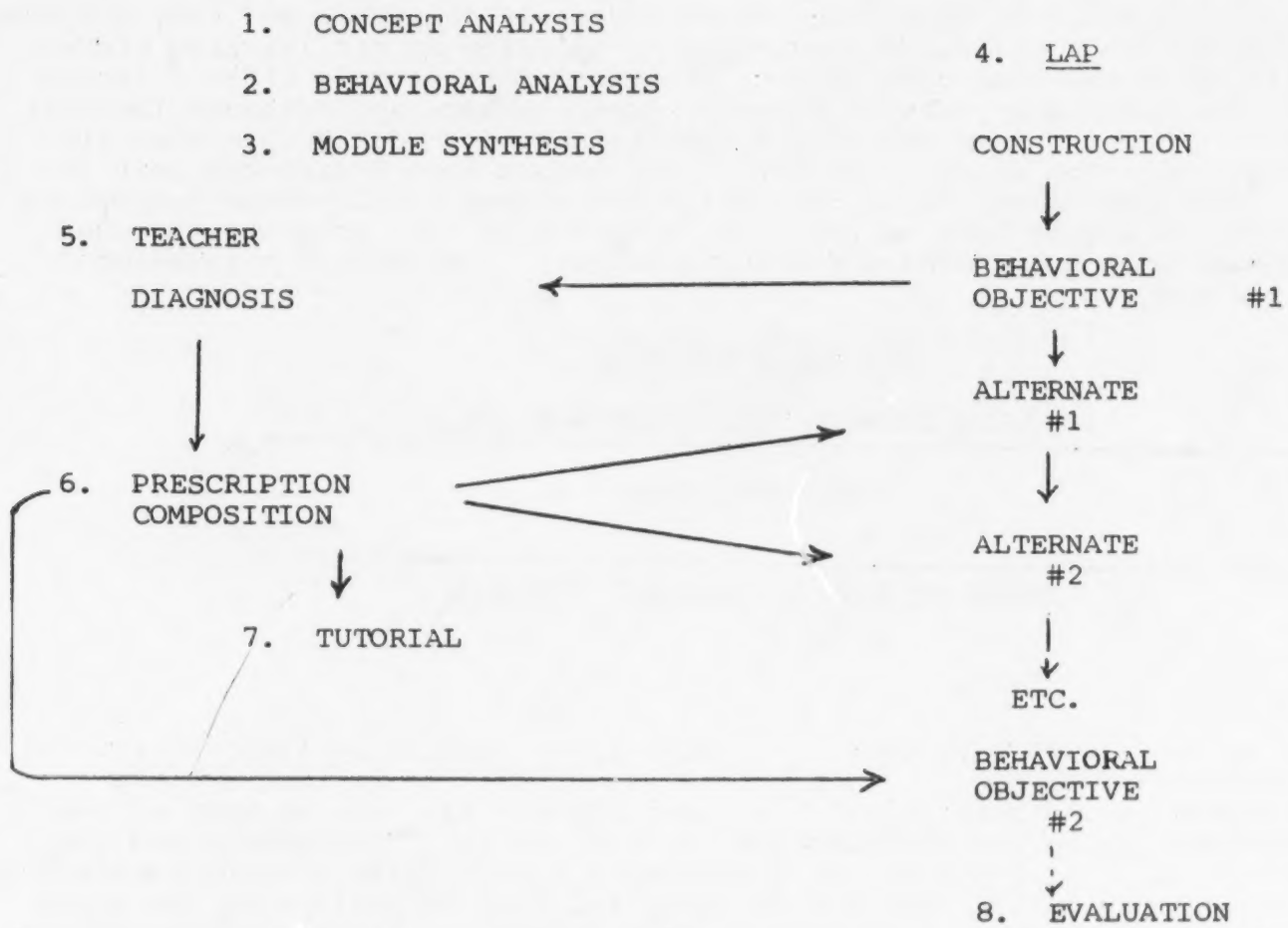
All 9th graders start with those core objectives prescribed from the initial pretest in September. To receive credit in science, all pupils must achieve minimum competency in the core objectives. Any student may take as many of the enrichment programs as he chooses with the consultation of his teachers and the guidance department. To obtain honors standing in either Earth Science or Advanced General Science, a pupil must complete the required LAPs for either of the areas but may conceivably complete all or part of both enrichment areas. After motivational effects are produced, a core student may do enrichment work in either area for honors standing.

When surrounded in this manner by learning situations, pupils soon synthesize structure and want to communicate about what they have done. Verbalization becomes an important part of the learning situation and independent study should stop. Key locations in each module designed to meet this need are identified and it is here that lectures and seminars are placed. The use of homogeneous pairing to encourage verbalization and small discussion groups is still utilized within the LAP at strategic points in the learning continuum, however. Talk is seldom encouraged at the beginning of an activity or module. Above all, the evolution of discussion between children is encouraged over teacher-pupil verbal exchange.

The complete model may be summarized to include both an instructional and an implementational structure as follows:

INDIVIDUALLY PRESCRIBED INSTRUCTION

OPERATIONAL MODEL



Certain prerequisite skills required of teachers have been identified which are essential to the implementation of an instructional process which enables a teacher to meet the individual needs of each pupil. The complexity in designing and implementing these educational procedures requires the highest degree of professional competency on the part of the educators involved. Since these skills are present in the teaching staff in varying degrees, a differentiated teaching staff (DTS) is produced as soon as the instructional model is implemented.

Two administrative problems immediately arise upon implementation of the instructional model:

1. The identification of the level at which a teacher is operating on the DTS hierarchy

2. The training of personnel for progression to each step of the DTS hierarchy

We have had rather remarkable success in bringing trained professionals to this level of proficiency through the model about to be described with several surprising and pleasant dividends.

1. Discipline problems virtually disappeared.

2. The atmosphere of self-directed learning and increased motivation to learn increases attendance.

3. The esprit-de-corps of the professional staff is elevated by the awareness of the degree of professionalism being practiced, the reduction of time consumed in non-professional duties and the realization of the increased effectiveness of their professional efforts.

4. The number of pupils instructed per professional teacher is able to increase and in many situations, the per pupil cost of instruction is reduced once the fixed expenses of plant and equipment have been met.

Procedure

The implementation of the instructional process requires the following hierarchy of teaching skills.

1. Operationally define each concept to be taught.

2. Identify the behavioral objectives which demonstrate satisfactory mastery of the defined concept.

3. Synthesize the cognitive structure which enables a pupil to achieve the identified behavioral objective.

4. Develop a learning activity package (LAP) which leads a student through the synthesized cognitive structure.

5. Develop diagnostic procedures (a) to identify the specific position of a student in cognitive structure where difficulty in concept mastery occurs and (b) to design alternative learning activities as a prescription to meet the individual needs of the student thereby overcoming that learning difficulty.

6. Implement the teaching process described with an evaluation process provided to
   (a) identify the position of each pupil.
   (b) measure the rate of progress of each pupil.
   (c) prescribe enrichment desired by each pupil as the need arises.
   (d) diagnose cognitive deficiencies of each student in moving through the instructional process.
   (e) prescribe the proper remedial instruction to overcome the identified cognitive deficiencies.

The identification of the behavioral goals desired as outcomes of the instruction is the first skill to be tackled. For many teachers, this is the most difficult to accomplish but the ability to identify behavioral goals is prerequisite to all subsequent development and implementation of this model. Therefore, if a school system desires to implement this model, in-service training in these professional techniques must be provided for those teachers who are not performing at this level. This should be followed by a training program in the design, production and implementation of independent study materials for teachers who need instruction. Without these skills in the profession of education, one cannot proceed toward the implementation of the instructional process because commercial materials are not available in the proper form for utilization at the time of this writing and the process of diagnosing and prescribing which is inherent in the model depends upon these skills.

Our research has demonstrated that when the faculty is capable of implementing this model, a differentiated teaching staff has evolved in which at least one member of a department has attained sufficient skill in the techniques described to provide analysis and evaluation of concepts in the cognitive domain and to synthesize the cognitive associations into modules of instruction which may be implemented at the proper grade level. It also follows that the role of curriculum coordination would naturally fall to those attaining this level of professional achievement. Teachers who possibly do not possess this degree of creativity or who have not yet attained these related skills, but who can use the instructional materials which have been developed to diagnose and prescribe for pupils must also evolve in the implementation process in order for the individualization of instruction to be provided.

A third eschelon role is also required to provide the instructional services needed in laboratories, small group discussions, seminars, large group lectures, testing and tutoring.

Once such a differentiated professional staff has been provided, the pupil-teacher ratio may be increased to as high as 30 to 1 if para-professionals are provided for clerical and supervisory duties. Our experience indicates that at least one aide per four teachers is required to properly implement the IPI program as well as audiovisual technicians, library assistants and resource center supervisors.

Specifically, the training of teachers already qualified in subject matter skills resolves itself into the following behavioral objectives:

1. Select the concept to be taught or topic around which the instructional unit is to be developed.

2. Identify the principle ideas of the unit.

3. Separate the principle ideas into core and enrichment categories.

4. Organize the principle core ideas into a hierarchy according to prerequisite knowledge status, cognitive status, the conditions of learning hierarchy or a combination of these.

5. Determine the most appropriate mode by which instruction toward the behavioral goals is accomplished and design a learning activity package (LAP) for each behavioral objective.

6. Prepare independent study materials to implement each LAP.

7. Construct an instructional unit schedule of the activity items in as close to a hierarchy as possible, indicating which items are core requirements and which are enrichment.

8. Prepare autosurveys for appropriate blocks of items in the unit and insert them in the unit schedule.

9. Prepare research and enrichment projects to carry the abler and more motivated students to that level of achievement they desire, and insert them into the unit schedule.

10. Prepare an evaluation instrument for the unit in which the behavioral objectives of each item are tested.

11. Cross index each item on the evaluation with the section of the instructional unit module in which the behavior was to have been mastered for purposes of prescribing the review.

12. Provide remedial alternative LAPs or tutorials for those pupils diagnosed to be having difficulty in attaining the behavioral goals attempted.

13. Establish a time line for the core material to prevent pupils from dwelling on one module so long that insufficient time remains to master the rest of the core unless a non-graded environment is desired.

In order to fully implement the diagnostic and prescription phases of the model, a computerized systems technology is essential. It is also desirable since the reduction in costs which accompany such implementation are substantial. Pupils' responses to pretest items are cross referenced with behavioral objectives of the learning activity packages (LAP). If all stimuli for general objectives of a LAP receive correct responses, that LAP will be omitted from the pupil's prescription for the module. Students will be working only on learning experiences directed toward behavioral goals which have not previously been mastered.

Evaluation of Objective Mastery is accomplished by:

1. Observing reactions to stimuli received during the learning activity.

2. Teacher diagnosis from responses to stimuli provided in the LAP.

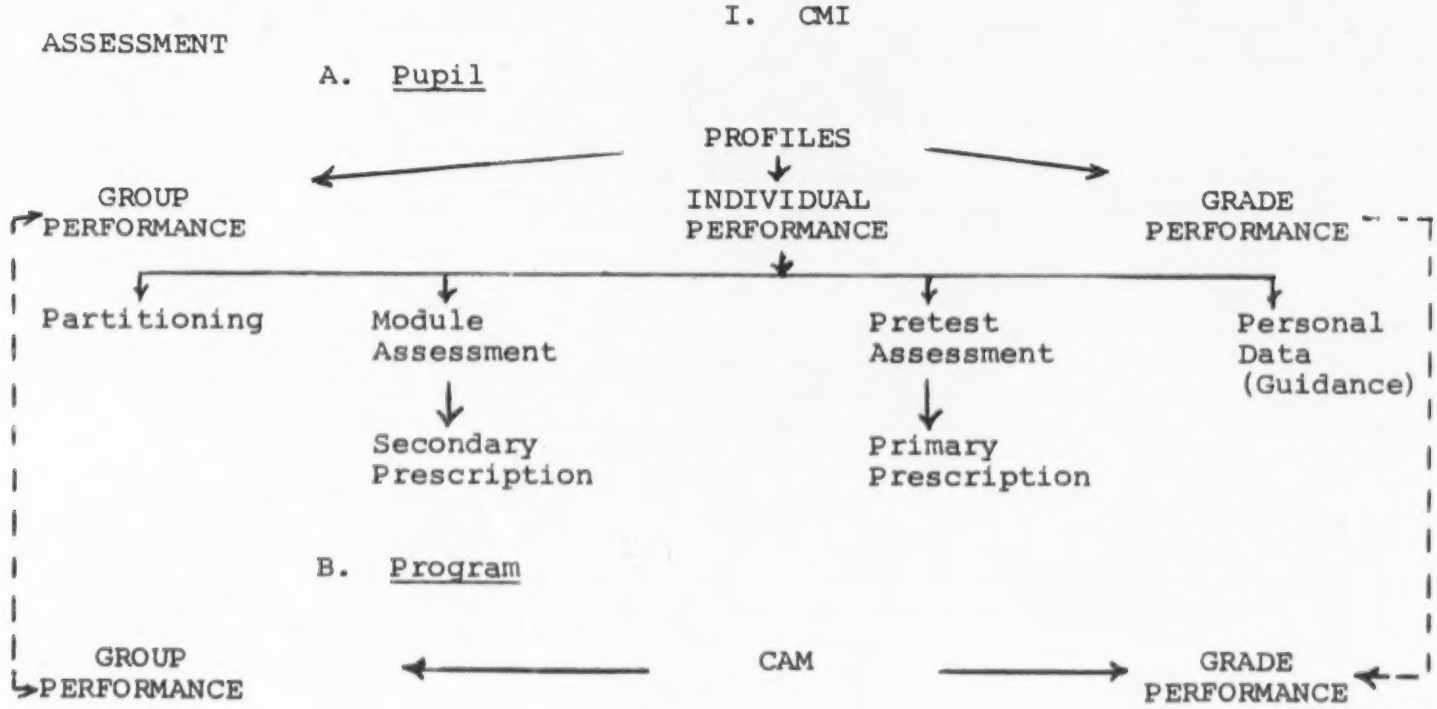
3. Student responses on LAP post-test items.

Except for laboratory reports, library research reports and psychomotor skill evaluations, pupil responses to evaluation items are made on mark-sense computer cards. Daily updating of each pupil's record is made by the computer which enables the teaching teams to assess daily the following:

(a) individual pupil position in each LAP
(b) achievement progress by each pupil within each LAP
(c) individual pupil achievement within each module
(d) partitioning of all pupils within each time block of instruction who have similar learning disabilities
(e) teacher assignments to partitioned groups

Concurrently, the teaching teams are able to assess from the group performance printout those items which are inadequate or unsuccessful in meeting the instructional needs of the program. Such program assessment is necessary to successfully revise instructional designs and materials as they are produced.

The above assessment design is described in the following flow diagram. Group performance matrices may be used to assess individual performance as well, since individual responses to each evaluation



item in the module appear on the horizontal axis. Besides a point biserial correlation on the items, a comparison of the errors made in responding to each stimulus allows the teaching team to further identify those behaviors where "interference" is occurring in the instructional process.

The percent of mastery of each item by the group is computed for each printout. Comparison of successive computer printouts will thereby allow the teaching team to identify points in the instructional design where "vicarious learning" and "transfer" occur. Such diagnostic techniques are not practical without the advantage of computerized systems implementation.

The Comprehensive Achievement Monitoring (CAM) system has been delineated by Dr. Robert O'Reilly, Chief of the Bureau of Research, New York State Department of Education, and William P. Gorth of the Department of Education, University of Massachusetts. The CAM procedure allows teachers to assess the effectiveness of each LAP in the instructional process toward achievement of each behavioral objective. Those teachers who produce successful instructional designs will be able to be identified readily and their techniques examined for formats which can be emulated by the teachers whose designs are less successful.

By comparing the achievement of students whose behavioral diagnosis is received from different staff members but who received instruction through the same LAP, teacher differences in diagnosing and prescribing skills may be identified and hopefully assessed in a similar manner to the LAP assessment previously described.

These assessments are not made by the CAM directly, but by computerized partitioning techniques utilizing the information received from the CAM.

The present project design utilizes at least four items to evaluate each behavioral objective; pretest item, diagnostic item in LAP, LAP evaluation item and module evaluation item. Where the pre-test and post-test are identical this number is reduced to three. Mastery of the objective is considered achieved when two of three correct responses are achieved since the probability of guessing two out of three correct on a four option multiple choice item is only .016. Only short-span retention is assessable with this design since all four items are administered within an average time period per module of one month. The large CAM will be used to assess long term retention.

From the daily input of date from mark sense cards, pupils with mastery problems on specific behavioral objectives may be listed. This computerized "partitioning" process greatly enhances the teacher team's ability to plan both space assignments and teacher assignments as the needs arise. Seminars can be assigned in pupil prescriptions when enough pupils with the same learning disabilities are ready for special treatment to warrant a "space and time" assignment by the professional staff. Separate learning disabilities may be diagnosed by careful planning of test item distractors which would uncover specific disabilities either cognitive or content in nature. Much needed research may now be done to develop diagnostic techniques in the learning disabilities area, especially with respect to the cognitive domain. Through the aforementioned partitioning process further evaluation may be made to ascertain whether successful achievement of objective has been hampered by the lack of cognitive skills rather than content deficiencies.

In addition to the statistical evaluation provided through the CMI technology and the large CAM, the records of secondary prescriptions are based on teacher diagnosis <u>during</u> the learning activities and are designed to meet individual pupil needs based on problems encountered by pupils in arriving at the behavioral goals. If a specific secondary activity or behavioral objective prerequisite to the LAP is found to recur, evaluation items are included in the pretests to diagnose those disabilities before the LAPs to which that knowledge is prerequisite are assigned. Alternate LAPs including remedial instruction to overcome the diagnosed deficiency are designed and prescribed in the primary prescription. The flow charts for the total process of diagnosing and prescribing is as follows:

Each of the facets herein described further delineates the process of individualizing instruction from "independent study" and brings teachers and students together in entirely new roles from those practiced in conventional classroom methods. It is the earnest hope of this project team that the product of its endeavors will be able to be implemented to successfully achieve this goal of individualizing instruction through increased teacher-pupil interaction through the transference of this model to all academic disciplines and at all grade levels.

KINDERGARTEN CAMERA CLUBS
AN APPROACH TO READING READINESS

by Robert Catney
Robert Hedges
Jamesville, New York

During the summer of 1969, we screened 104 incoming kindergarten entrants. This screening was done by using the Gesell Developmental Test on an individual basis. Of those students tested, we found 42 students unready or partially unready for the 1969-70 school year according to the Gesell Standards. The question which we hoped to answer was what happened to these children during the academic year. Were they still "unready" at the end of the Kindergarten year? This was particularly important to answer since there was a strong impression of similarity between the percentage of "unreadies" and the percentage of below competency scores on the New York State 3rd Grade Readiness Tests.

At the end of the school year 1969-70, we did post testing to see if students were still unready. Of those unready for Kindergarten (42), 34 were still unready in regards to entering 1st Grade. We then began to test for correlations to determine if we could identify a factor that might be correlated to the unreadiness. We found through extensive testing, no positive correlation between Gesell, unreadiness and age, intelligence, or reading readiness (Metropolitan Readiness Test Form B). We then began to search for other factors. Teacher continually mentioned lack of participation, lack of energy, etc. which we identified as poor self-concept.

This brings us to the present time. This year, we have instituted a special Kindergarten Class. This class is composed of 17 students selected on the basis of testing unready on the Gesell Developmental Test, plus an indication of an average or better intelligence. Then, only after parent conferences, were youngsters assigned to this class. A reference group having all the similar charateristics was then identified.

The next question was how would the Kindergarten class be different than any of our other. All of our Kindergarten classes have:

1. Certified experienced teachers.
2. Teacher Aide assistance.
3. Participate in Art, Library and Physical Education on a weekly basis with experienced teachers.
4. Additional materials available include Frostig, Gesell, AAAS, Peabody Language materials and others.
5. Student teachers from Syracuse University.
6. Auxiliary personnel including Speech teachers, Psychologist, Nurse and Reading instruction.
7. Plus other typical Kindergarten programs and activities.

The one thing that is different about this class is an attempt to change self-concept through the use of Kindergarten Camera Clubs.

The idea of Kindergarten Camera Clubs is not new. At the recent National Conference of Visual Literacy, several studies were reported on the use of cameras with young children. These studies embraced the many parameters of visual literacy and were designed to accomplish other specific educational objectives other than modifying self-concept. Occasionally, authors did however, offer non-emperical observations that self-concept of participants had been positively modified.

If one accepts the idea of self-concept, which is defined for this report as a person's view of himself, then one must indeed accept the basic postulates

of phenomenology philosophy. The key to this philosophy is perception. It contends that factors which determine behavior are those experienced by the individual at the time of behavior and the individual will select perceptions to which he satisfies his needs. What he perceives is reality to him, thus an individual's perception of self is crucial in the causation of behavior.

In reviewing the literature on self-concept, several important facts can be abstracted:

1. Many studies have been done to relate self-concept to achievement.

2. There is a need for a method to be used in schools for modifying self-concept.

3. There has been very little research with very young children.

4. That the impetus toward interest in self-concept arose from the applied field, particularly non-directive therapy. And the literature contains examples of it being used in modified form by teachers.

The research demonstrates that changing of self-concept is the most characteristic aspect of non-directive therapy. As a process it provides an environment in which (1) the individual's self-concept is free from threat, (2) the individual receives assistance in directing his awareness upon the perception of self-concept and (3) the nature and the change are left to the individual.

Our Kindergarten Camera Clubs are using a form of non-directive therapy which we call Self-directed Photography. As a form of non-directive therapy it provides an approach to modifying self-concept that is not possible with other means. The camera provides the tool to help the student to modify self-concept by forcing the student to focus in on his environment. It provides him with a record of his selection. In addition, since the photograph is a surrogate of reality it can be considered as non-threatening since it is only a picture.

Since young children do not possess the necessary verbal concepts to express themselves, the photographs help by providing information visually to help him verbalize about them in a non-threatening environment. We call them talk sessions and the teacher assists the student in directing awareness upon the perception of self-concept.

Although we are still doing research on the process, we are receiving favorable comments from teachers and parents. As a process, the procedure for Self-directed Photography is very simple. After training the children in how to use the camera and checking on their competency, give them the camera with the film in it and sufficient flash cubes and tell them to take pictures of whatever they wish or to show someone how to use it and have them take pictures for them. It is important to the process that the children have a great deal of freedom in how they want the camera used.

When the student has used all of the roll of film, he should return the camera and the film. Have the film processed as soon as possible. (48hrs is the time we use) return the photographs to the student and have him verbalize about them in a talk session. During that time, the teacher should follow the following guidelines.

1. Accept each child as he is.

2. Develop a good rapport as soon as possible.

3. Make the child feel free to express himself.

4. Let the child lead the way.

5. Do not hurry the process.

6. Only establish structure that is necessary.

SYSTEMS DEVELOPMENT IN EDUCATION

by William H. Williams
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It has been said that in a Medieval university three professors attempted to determine the number of teeth in a horse's mouth. They agreed that it could not be three or a multiple thereof because that would be an afront to the holy trinity. They also agreed that it could not be a multiple of seven because the earth was made in six days and He rested on the seventh. What then.

A student, overhearing the discussion, walked over to the horse and to the horror of the professors opened the horse's mouth and counted its teeth. Thus began a rebirth of the scientific method of inquiry and somewhere Aristotle smiled.

Acceptance of this approach took time. As late as the 1890's college professors in the United States were relieved of their teaching responsibilities for encouraging students to perform such tasks as dissecting frogs to learn how they functioned rather than accepting what had previously been ordained. However, the scientific method eventually became established and in fact, became erroneously known to many as "common sense."

By the middle of the twentieth century extensive progress had been made in the name of science and surprisingly, most of those who were responsible for the progress were still alive and producing. The sheer numbers and rate of addition of facts, disciplines, discoveries and even people were increasing at a rate never before dreamed possible. Advance was no longer logarithmic or geometric but was by orders of magnitude and within short time frames. There were a multitude of new resources for problem solving and for discovery, but a new dilemma presented itself, namely, the managing and directing of those abundant resources. The need was for a method of managing all those resources and from the mother of invention came systems and the systems approach.

The purpose of this paper is to present a working definition of "system," delineate and basic steps of the systems approach and propose a plan for implementing a systems approach in administration. Although specific reference is not made to administration in higher education, this writer contends that the approach presented in this paper can be utilized successfully within an institution of higher education and can bring about greater compatability between the programs of that institution and the needs it serves than traditional and contemporary approaches to administration which do not emphasize the systems approach.

Definition of Terms.

The word "system" comes from the French "systanai" which means united or to place together, and a system is precisely that; a unity of several elements. (These elements will be defined later.) This system or unity must adhere to three basic principles. It must be organic, objective oriented and documented.

Organic. This word has many meanings depending upon the discipline within which it is being used. The biologist uses the word to mean something totally different from that of the chemist or the grammarian. As used in this context, organic means coordinated, vital, dynamic whole. This refers to the systematic coordination of all parts; to the collective functioning of all vital aspects of the system.

Objective oriented. Objective orientation is looked on by many as the single, most important principle of a system, for without this, the system, as with research which lacks the hypothesis, is aimless. When a system lacks an objective the system itself becomes its own raison d'etre. It is at this point that the system begins to exist for the red tape which it generates and the bureaucracy which it supports. An objective oriented system is one which changes as the objectives for it changes. What changes objectives and how they are formed will be covered later.

Documented. An undocumented system is one which exists only in the mind of the developer. As such it is only a concept, not a reality. Further, when an undocumented, or poorly documented system is developed and implemented, the task of changing it, monitoring it, updating it, or simply eradicating it becomes extremely difficult. Since by definition a system is highly complex, with a multitude of resources, the only way to know how these recources impinge on the system or how the resources are affected by the system, is to document it.

People orientation. This fourth point is also a principle, but it is so critical to the existence of a system that it is axiomatic. For that reason it is treated separately. Systems are made to serve people and the moment a systems analyst forgets this the system is doomed to poor performance and hopefully to eradication. The field of data processing has an expression which long ago became part of the data processing practitioner's repertoire. Perhaps this was because he was and still is thought of as the person who "dehumanizes" operations with his machines. The expression can sound trite after it is used a few times but the message is unmistakably clear: "It is not only cards but people that should not be bent, folded, spindled, or mutilated." People without systems are limited, but systems without people are useless.

System. With these basic principles in mind, a definition of system is: a documented, organic collection of elements united to serve people and accomplish a specific objective.

Elements of a System.

There are four basic elements to a system. Those are output, input, resources and operations.

Output. Output is normally the first consideration in the investigation or development of a system. Output represents goals and objectives. The output is the purpose for which the system exists. If one is to investigate the efficiency of a system then, one of the first questions asked should be whether or not there are some parts of the input, resources or operations which do not contribute to the output. If such is the case, those parts should be removed from the system.

An example of output from curriculum or course development might be a student's behavioral objectives for that course or terminal objectives for the curriculum. These might be to get a specific job or to gain admission to a particular graduate school or to pass a specific professional or licensing test.

Input. This is the element which is normally considered next following consideration of output. This tells the investigator* what it is he has to work with. This knowledge, along with knowing the output will give the investigator an idea of the magnitude of the system. In the development of a system, these two elements typically define parameters for the utilization of resources and the development of operations.

An example of input from curriculum or course development might be a student's intelligence, aptitude, interest, background and level of interest.

Resources. There are instances where resources are so limited that they in turn act to define the scope of input or output. In other words, if the resources available to an investigator are limited so must be the magnitude of accomplishment--quality or quantity--of the system. Thus the difference between the input and output is limited.

An example for resources from curriculum or course development might be text material, guest lecturers, audio-visual media, counselors, tutors, etc.

*A variety of titles are used correctly and incorrectly to refer to the "system man." To avoid the pitfalls of using a title incorrectly within some specific context, the title "investigator" will be used throughout this paper.

Operations. Operations are the primary object of system design. Resources and input are normally specified as operations are designed to meet objectives (output).

An example of operations from curriculum or course development might be the curriculum or course itself including complete documentation.

In addition to the bour basic elements of a system is one element which is critically important to the organic nature of a system and that single element is "feedback". It is feedback which provides the data and the method for an organic as opposed to a static or stagnant system. The provision of feedback is no guarantee that there will correspondingly be evaluation or an organic system. Feedback provides merely the method and the data. Feedback is however the sine que non for evaluation and the organic system. Viewing feedback from a pragmatic, real world standpoint it must exist as an open channel which permits two-way communication.

Systems Approach.

The systems approach refers to the investigation or development of systems. As such it is: a method of investigation and development which considers and interrelates the elements of a system and the steps of system development. The systems approach is first an approach; a method. By itself it is passive. It offers no guarantees. It will not provide anything not provided to it. If the user either cannot define or ill defines the needs for a system, this approach will most likely not meet the real needs for which it is intended. If the user incorrectly identifies the objectives for the system, the real objectives for which the system is intended will most likely not be attained. If the state of the art has not advanced to the point of providing adequate techniques or methods for the solution of the problem, the problem will most likely remain unresolved. And so on. If any of these events occur the likelihood is also great that the system will sense the resulted unmet needs through the method of feedback and correct for it. This approach, as the one you are most likely using now, does not offer solutions or answers. The systems approach does however provide a method of arriving at a solution; an answer. If this approach is followed by individuals skilled in the appropriate disciplines the likelihood is great that the needs will be met; objectives will be attained; the best available methods and techniques will be used; the environment for implementation will be controlled yet flexible; and feedback for ongoing evaluation will be avialable.

There are six basic steps in the systems approach:

1. Establish need. (NEED)
2. Determine what is required of the system. (REQUIREMENTS)
3. Determine how the requirements will be met. (PERFORMANCE)
4. Program the system. (PROGRAM)
5. Implement the system. (IMPLEMENTATION)
6. Monitor feedback data. (FEEDBACK)

Although presented as such, these are not necessarily discreet steps which must be accomplished in lock step fashion. They are generally progressive.

Need. This is always the first question. Is the result of the activity about to be undertaken needed? Depending upon educational philosophy, the needs of the student, of students as a whole, of society, of the discipline or of the institution may predominate. More appropriately, however, all of these needs should be represented, and the predominance if any should be determined by the strength of the several needs represented.

Needs can often be quantified or qualified. In the case of preparation for a specific job, a task analysis can be obtained or performed in order to get definite quantifiable data regarding the preparation of students for that particular job or field. In other areas where the need is more varied and/or not so

easily delineated an approach such as the "DIG" approach may be used effectively. This is a technique in which all conceivable needs are listed and then the questions of:

D - is this need directly applicable?

I - is this need indirectly applicable?

G - is this need generally applicable?

are asked. Then depending upon the scope of the system the "G" items, "I" items or none of the items are removed from the list. There are other methods of quantifying and qualifying needs.

Requirements. The amount written on the topic of behavioral objectives in the last eight years has been voluminous. Objectives are important. They are no more important however than establishing need, programming the system and so forth. This step asks what do you intend to accomplish (output) with what do you expect to begin (input); and what do you expect to use (resources).

Objectives should be stated clearly enough that criteria for satisfactory accomplishment of those objectives may be easily extracted. They should be measurable, if at all possible. Degrees of difficulty, competency and/or effect may be determined through Bloom's taxonomy of the cognitive domain and Krathwohl's taxonomy of the affective domain.

Two problems with stating objectives must be avoided. First is the problem of stating objectives which are, in reality, statements of purpose or philosophy. Although useful in some respects, these are meaningless as objectives. Second, there is a point of diminishing returns when it comes to the time spent on determining objectives. In many cases, it may be possible to state educational objectives in the affective domain behaviorally, but the time required to do so would be prohibitive by virtue of diminishing returns.

Performance. Two primary functions are performed with this step. First, the determination is made of how the requirements of the system will be met. This involves the determination of and eventual selection of alternatives. Second, a performance or criterion test is written at this point which can be used at the completion of the system to determine whether or not the objectives have been met.

In the first function of this step, alternative methods of accomplishing the stated objectives must be determined. Each of these alternatives must then be evaluated and the best alternative or combination of alternatives selected for detail programming or development.

In the second function, performance objectives must be written and set aside so that they are not effected by the developmental activities that follow. These performance objectives serve as an evaluation of the effectiveness of the program developed in the next step and the implementation of that program in the step following that. Gagne's analysis of the skills required for various levels of mastery of content may well be used at this time.

Program. In this step, the alternative selected in the previous step is developed fully. This involves simultaneous development in three areas (content, media and strategy) across the four elements of a system (output, input, resources and operations) forming a three by four matrix. This matrix is then synthesized into the total system.

Implementation. Implementation is normally a two-fold operation with the first being a test run or field test. This is normally conducted to iron out "bugs" or errors, not to determine validity, reliability, effectiveness, efficiency, or worth. Once the test run is complete, the system should be implemented on a production basis. In the case where this is a critical administrative system and it is replacing an existing system, it is wise practice to allow the new system to operate in parallel with the old one for a period of time commensurate with the magnitude and critical nature of the system.

As the system becomes operational, two key management functions become extremely important to the success of the system: change and control. As the need for change becomes evident, change must be made. Along with this idea of change however must be the concept of control. Controlled change means rational change to meet objectives.

Feedback. It is at this point that the performance criteria developed in the third step (performance) are used to evaluate the system. Decisions can be made, via this feedback mechanism for ongoing evaluation for validation and reliability. Decisions regarding effectiveness, efficiency and worth require external criteria for data. This normally requires a research effort.

Applications.

The systems approach has been used in a great variety of forms and applied to many different types of problems. Listed here are a few of the more common applications of and techniques used with the systems approach.

Information Systems are used for handling exceedingly large amounts of data such as that amount which may be found with inventory control, payroll, personnel, accounting, purchasing, student records, etc. Typically these are automated using computers or (less often) punched card equipment.

Task Analysis is used for defining the specific functions of a job or any major or complex operation. This was initially used by "efficiency experts." It was later used in industry by wage and salary specialists to determine wage rates. Task analysis has excellent application in establishing the needs for paraprofessionals such as teacher's aides, paramedical people, administrative aides, automated systems, and restructuring of organizations.

PERT (Program Evaluation and Review Technique) was first developed and used by the Navy at Lockheed Missiles & Space Company with the Polaris Missile. The use of this technique reduced measurably the cost and developmental time of the Polaris and later the Poseidon. Its primary use is in establishing time estimates and schedules for short term projects and then for evaluating the effectiveness of meeting those schedules. The application of this technique is found in all areas of administration, where time estimating is done. As with many systems techniques, one of the greatest advantages this holds for its users is the fact that a thorough analysis of the project at hand and all the tasks involved in its completion is mandatory. This method is also called CPM (Critical Path Method).

Operations Research (OR) is an analytical tool borrowed from the mathematicians when the computer made the elaborate, and abstruse calculations required for this technique possible. The primary function of OR is to provide decision makers (administration/management) with a more logical basis for making decisions and predictions.

PPBS (Planning, Programming Budgeting Systems) are management systems which enable management to function with a broader base of knowledge concerning the individual needs, objectives, and methods used by projects and departments throughout an organization/insititution/business. Too often PPBS is associated only with budget. This is an error. The applications of PPBS extend well beyond budget.

Conscientious application of these six steps as described should produce a documented, organic, objective oriented, educational program. It might be well to compare these six steps with one other method which is perhaps more often used. This "other method" was originally documented in a poem entitled "The Calf Path." The author is unknown but the message is very clear.

THE CALF PATH

One day through the primeval wood
a calf walked home as good calves should;

But made a trail all bent askew,
a crooked trail as all calves do.

Since then three hundred years have fled,
and there is no doubt the calf is dead.

But still he left behind his trail,
and thereby hangs this moral tale.

The trail was taken up next day
by a lonely dog that passed that way;

And then a wise bellwether sheep
pursued the trail o'er vale and steep,

And drew the flock behind him too,
as good bellwethers always do.

And from that day, o'er hill and glade,
through these old woods a path was made.

And many men wound in and out,
and dodged and turned and bent about,

And uttered words of righteous wrath,
because 'twas such a crooked path;

But still they followed - no not laugh,
the first migrations of that calf.

This forest path became a lane,
that bent and turned and turned again.

This crooked lane became a road,
where many a poor horse with his load

Toiled on beneath the burning sun
and traveled some three miles in one.

And thus a century and a half
they trod the footsteps of that calf.

The years passed on in swiftness fleet;
the road became a village street;

And this, before men were aware,
was a city's crowded thoroughfare.

And soon the central street was
this of a renowned metropolis,

And men two centuries and a half
trod in the footsteps of that calf.

A hundred thousand men were led
by one calf near three centuries dead.

For men are prone to go it blind
along the calf-paths of the mind.

And work away from sun to sun
to do what other men have done,

They follow in the beaten track,
and out and in, and forth and back,

And still their devious course pursue,
to keep the path that others do.

The keep the path a sacred groove
along which all their lives they move,

But how the wise old wood gods laugh
who saw the first primeval calf.

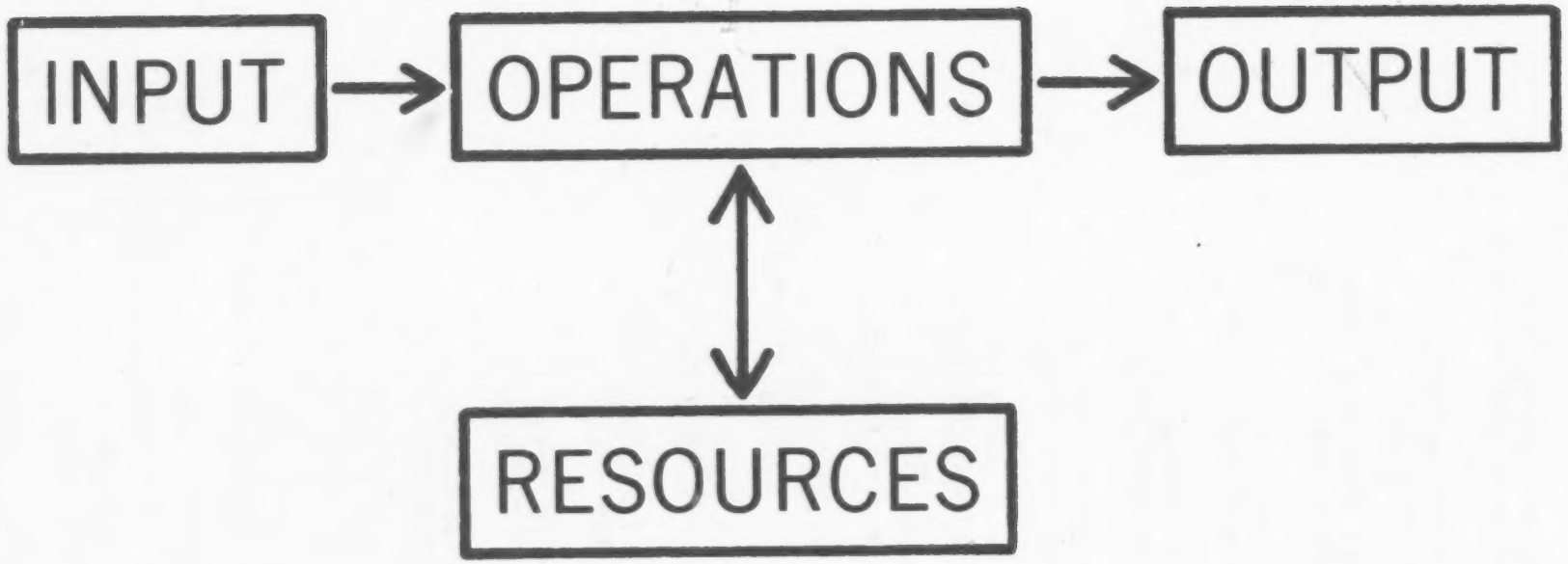
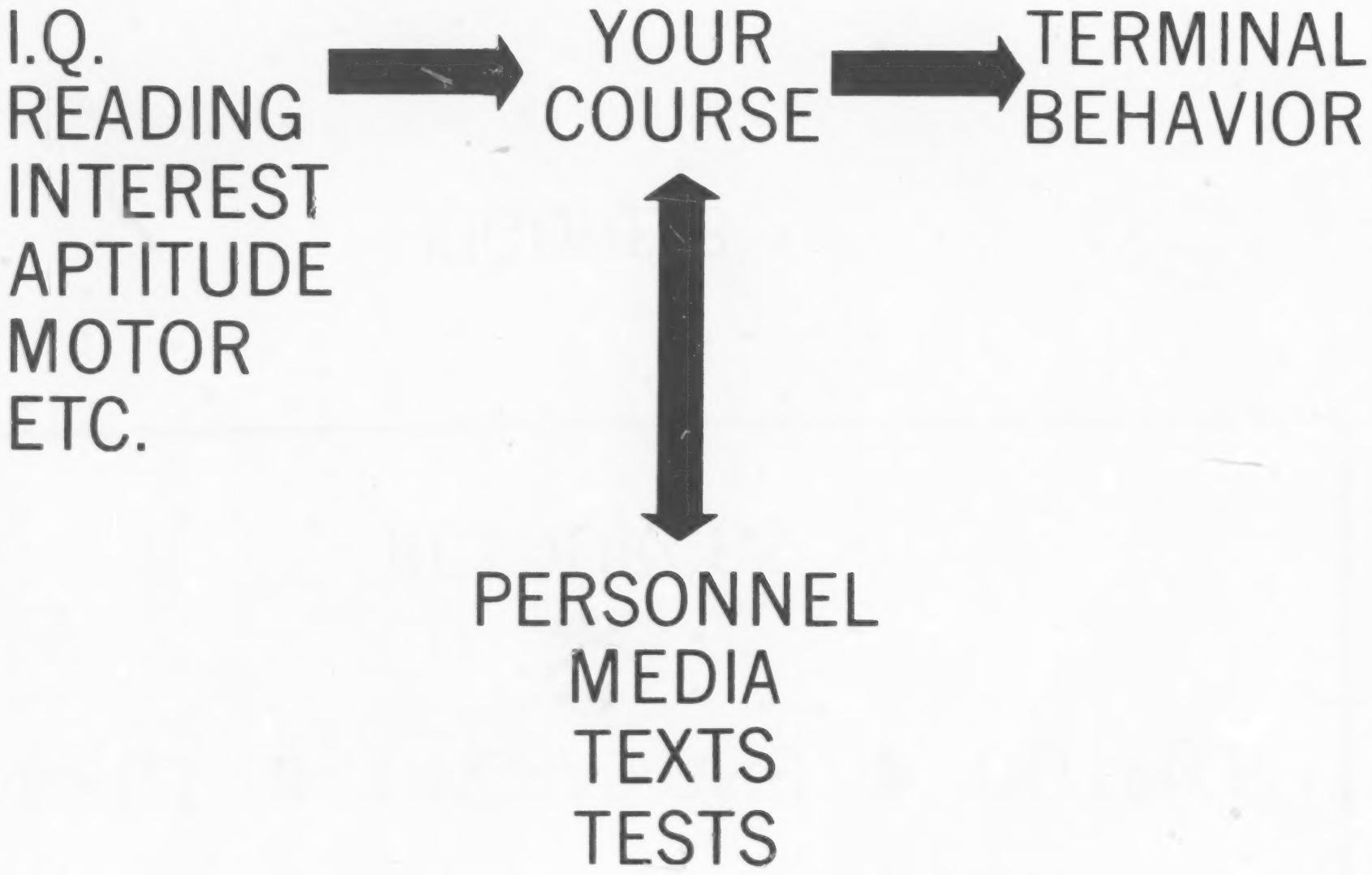


FIGURE 1


I.Q.
READING
INTEREST
APTITUDE
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ETC.
YOUR
COURSE
TERMINAL
BEHAVIOR
PERSONNEL
MEDIA
TEXTS
TESTS

FIGURE 2

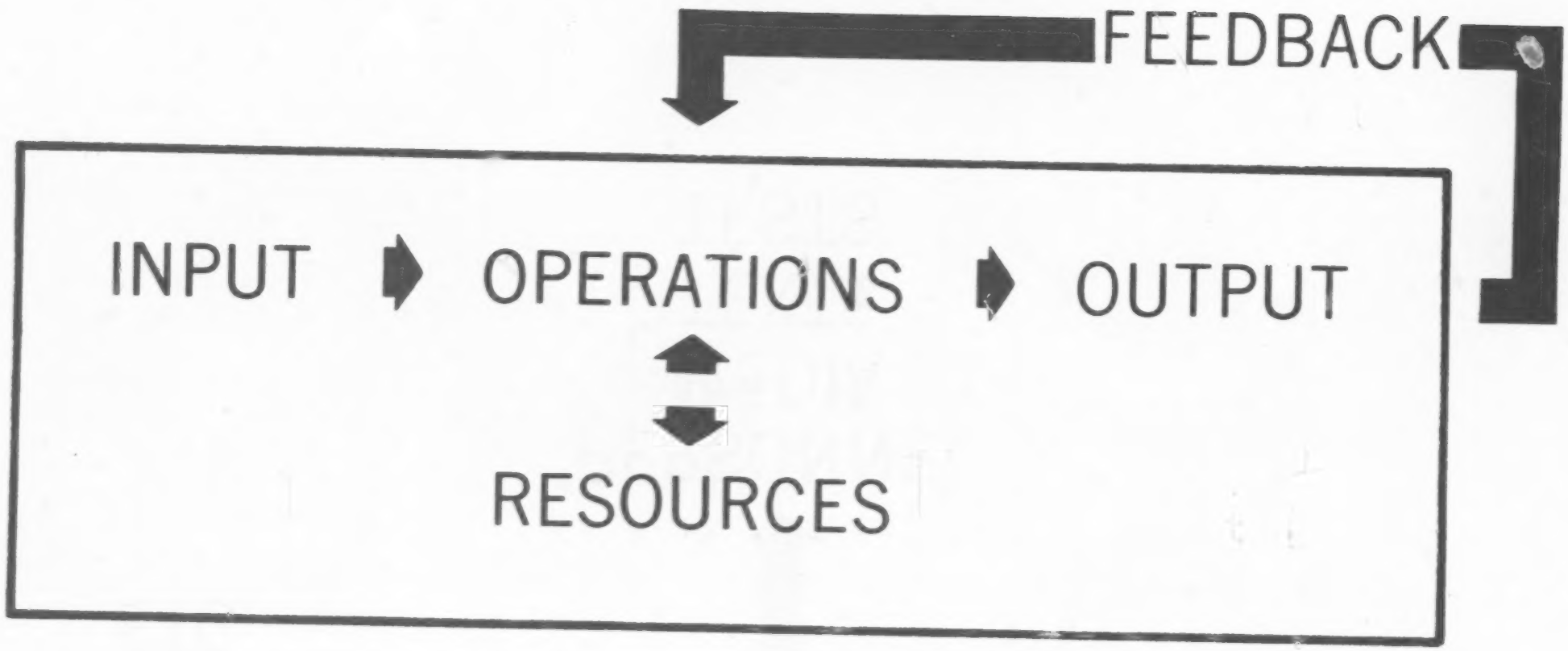

FIGURE 3

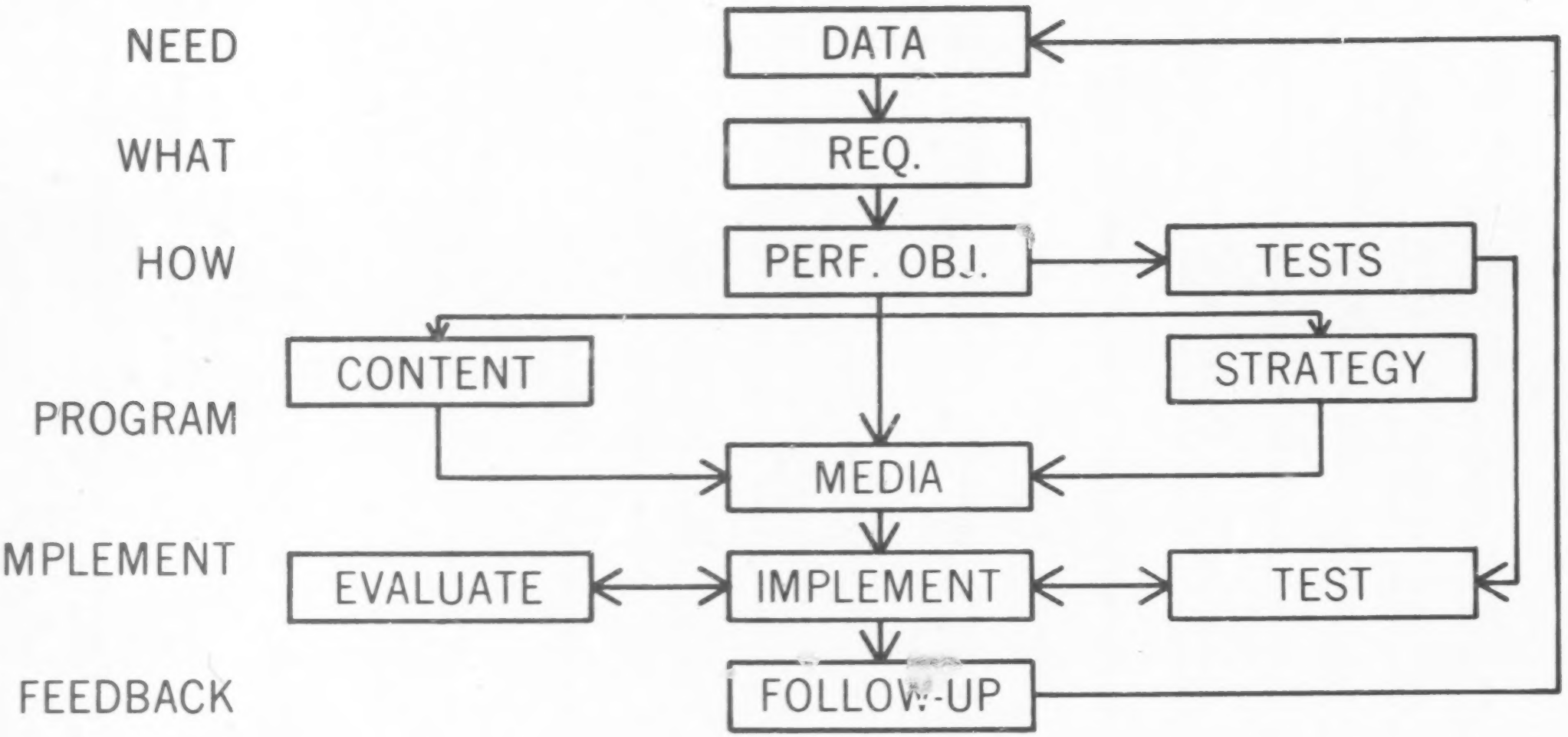
NEED
WHAT
HOW
PROGRAM
IMPLEMENT
FEEDBACK
DATA
REQ.
PERF. OBJ.
TESTS
CONTENT
STRATEGY
MEDIA
EVALUATE
IMPLEMENT
TEST
FOLLOW-UP

FIGURE 4

56

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SOME USES TO WHICH A CLOSED CIRCUIT TV SYSTEM CAN BE PUT

by R. Abrams
Campus School
S.U.N.Y.
New Paltz, New York

Three years ago a system of remote controlled cameras and associated equipment was installed in three classrooms of the Campus School at the State University College, New Paltz for use by the Education Division in the production of demonstration lesson tapes and for micro-teaching. The school had previously been wired for TV reception of Channel 13 educational programming. Through the cooperation of Dr. John Price, Director of the college's Instructional Resources Division, who is responsible for the system, we were able to add a modulator. Now programs originating in the school can be received on our own classroom sets.

With this addition to the existing system we have been doing a number of interesting and, I believe, educationally sound student involvement projects. I would like to tell you about some of them and to show you excerpts from student produced programs.

1. STUDENT NEWS PROGRAM: Each Wednesday, during their regular Language Arts period, 7th and 8th grade students put together a news program on videotape. The program includes announcements for the week, school news items, intramural sports news, a fashion report by Home Economics students, and a special interest story. This usually takes the form of a spot done by students from an elementary classroom. For example, students from the 5th grade have done a series of science experiments leaving the audience with a question to be answered on the next program. A first grade student has reported on the proper procedures for taking care of books. An editorial taking a stand on anti-pollution measures has been reported by a representative from a class studying the effects of pollution on the environment.

These are a few of the special interest spots which have already been done.

The next morning, after taping, the program is played to all classrooms during homeroom period. This has proven to be a highly motivational tool for generating interest in media literacy as well as other school pursuits. Students must block the show so that a student director can punch up the appropriate camera on cue. Other students must know how to manipulate the cameras so that they will be where they should at the proper time.

Scripting the show, collecting the news, designing sets, setting sound levels, balancing the cameras, all of these things and more are done by students as a regular part of Language Arts.

Major production functions are performed by a core of 30 seventh and eighth grade boys and girls who participated in a four week "Television Production" course which was offered as an elective at the beginning of this school year. Last year's programs were produced by a TV Club which functioned after school hours and produced "live" shows. Chaos periodically prevailed when it was found at the last moment that a chief talent was absent. The taping seems to be working excellently since it relieves pressure and allows the insertion or deletion of material, if necessary. Here is a sample. (show tape segment)

2. DRAMATICS: The stage has always been a vehicle for artistic expression in school activities. Now competing media must be explored so that students, through contrast, may discover the strengths and weaknesses of each. Television offers unique dramatic possibilities, especially since the introduction of electronic editing or assembling which allows filmic effects to be made even if only one camera is available.

Our tape sample shows that any grade level can become involved. Here a first grade class pantomimes a phonograph record of "Peter Pan" with a ballet like version. (show tape)

3. SELF EVALUATION: Just as micro-teaching experiences on television help student teachers evaluate their performances in the classroom, "instant replay" of student efforts have been used through simulation games on television. Naturally, every student who appears on videotape for any production makes mental notes for improving future appearances. In Social Studies the simulation game "Napoli" (national politics) was played before the TV cameras and critiqued through tape. Students weighed the decisions which they made under game pressure, against those they made in retrospect and under less hectic conditions. (show tape)

4. VIDEOTAPING OUTSIDE RESOURCE PERSONS: There are several reasons for videotaping resource persons who come to the school;
a. Students, acting on a panel, are more at ease with a guest in a studio classroom than they are in an auditorium with all their peers. Many guests are also more responsive in the quiet surroundings.
b. Our auditorium is too small to accommodate the entire school. It would take three performances of any stage presentation to reach every student. Only one is necessary using the closed circuit system.
c. Many resource persons are available only at inconvenient hours. Taping can occur at the resource person's convenience and playback at the teacher's convenience.

d. Using TV we provide more students and community people with experience at the other end of the system. Being on it rather than just observing the tube is an educational experience for all concerned. Perhaps with such exposure our students will learn to be better consumers of the TV product.

To date, resource persons have been videotaped for Social Studies classes. Several political candidates for local offices have been interviewed, a local historian has appeared, and the mother of one of our students came in to discuss her heritage as a full blooded American Indian. (show tape)

5. CLASS REPORTS: As was mentioned earlier, the auditorium of the school is too small for whole school presentations. When a sixth grade class did an extensive study of the history of communications they decided to show their findings to everyone. What medium could be more appropriate than television for showing a cronological account of the development of man's communications developments? (show tape)

MENTA-MAMARONECK'S ENGLISH TEN APPROACH: A MULTIMEDIA HUMANITIES COURSE

by M. Macchia
H. Diskiwi and
Mrs. M. Sper
Scarsdale, New York

MENTA, Mamaroneck's English Ten Approach to the Humanities, originated approximately four years ago when a group of dissatisfied tenth grade English teachers discussed the possibilities of changing the curriculum in order to improve the quality of instruction and perhaps alter the existing "system". The current program has evolved from the work of many teachers (with the aid of federal funds-Title III.)

MENTA, now known as English Ten, is a multi-media humanities course. Teachers and students rely on the use of any and all media and art forms for communication. Collage, 35mm slides, audio tape, video tape, motion pictures, still photography and, of course, the written word are used extensively.

The attached statement explains the instructional philosophy of the program. In order to carry out the ideal of a learner-responsive instructional system, the program relies on projects which are designed and produced by students. Students are encouraged to respond freely to any literary work, film or activity. Their productions are truly their own - designed and executed by them. Assignments are always broad in scope. Students are permitted, and in fact are encouraged, to re-structure assignments, and they are free to use any medium they wish.

It has been our experience that the students design and produce more meaningful projects when they are left to their own devices in a structured environment.

The structure of the program is based on students' learning about themselves, one another, their environment, their value systems and the alternatives open to them when they achieve this awareness. Literature, writing, discussions, films and projects are all derived from these central themes.

PHILOSOPHY STATEMENT

English Ten
Mamaroneck High School
Mamaroneck, New York

The philosophy and objectives of the English Ten program are best expressed by the following statement from the E.S.'70 network:

> Learning is an individual process. Different students approach the teaching/learning situation with different needs, goals, strengths, limits and experiences. A learner responsive instructional system provides for each learner the personal opportunity to participate in the:
>
> 1. Setting of his own short, intermediate and long range goals.
>
> 2. Design of those educational experience through which he will achieve success.
>
> 3. Selection of learning methods and materials to be used without regard to subject matter boundaries.
>
> 4. Budgeting of his time, within broad limits, in order to learn at a rate which is appropriate for him.
>
> 5. Establishment of levels of performance to be reached which specify satisfactory fulfillment of curricular objectives.
>
> The ES '70 system is designed to develop learners who have the necessary skills and knowledge to function as effective citizens in the social, political and economic spheres of today's and tomorrow's world.

In order to develop a learner-responsive instructional system a program with the following attributes has been developed:

1. Process oriented. Emphasis will be placed on process and the development of individualized learning strategies.

   MENTA has from the outset been described as a process oriented curriculum. Instructional emphasis will be placed on the "mental skills used in handling, dealing with or transforming information...
   "Processes, as a type of objective, are specific mental skills which are any set of actions, changes, treatments or transformations of cognitive or affective entities used in a strategy in a special order to achieve the solution of a problem associated with the learning act, the use of learning products or the communication of things learned."*

2. Behavior-oriented curriculum. Content will be used as a medium for teaching general patterns of behavior.

3. Student-centered. The student will share with the teacher the responsibility of determining the specific activities in which he will participate. The student will select the specific materials which he will pursue. (A framework should be provided. The student will work within the structure provided and still have the freedom of choice which will permit him to work at his own pace and level.)

4. Individualization of instruction. This will be achieved by providing as great a variety of methods and materials as is reasonable. It is a goal to continue to build resources within the school and provide accessibility for any and all resources outside the school.

5. Multi-media communication. The various media are studied in order to understand their impact on the environment as well as to provide students with several modes of expression from which to choose.

6. Pass-Fail grading. By removing grades we hope to encourage creativity and freedom, and emphasize the learning process.

7. Interdisciplinary in nature. Since our function is to develop a humanities program, we will draw heavily on all phases of the English curriculum (literature, media, language, etc.) as well as art, music, and the social sciences.

8. Heterogeneous grouping. The purpose of eliminating all tracking is to provide for interaction among students of all ability levels.

9. Team teaching. Ultimately we hope to provide differentiated staffing in order to take full advantage of the assets and skills of the staff.

10. Skill development. Certain skills will be introduced and stressed (e.g. film literacy) while others which have been introduced previously will be maintained and developed.

11. Relaxed atmosphere. The atmosphere should be free and therefore provide a "climate for learning".

* Burns, Richard W. and Brookes, Gary M. Processes, Problem Solving and Curriculum Reform. Educational Technology, May, 1970, Vol. X. No. 5. Pp 10-13.

INSTRUCTIONAL DEVELOPMENT INSTITUTES

by John Johnson
Ken Tessier
Victor Lisnyczyj
Ken Jordanek
Syracuse, New York

THE INSTRUCTIONAL DEVELOPMENT INSTITUTE PROGRAM FOR SCHOOL DISTRICTS

Part I

The Instructional Development Institute (IDI) program is designed to train Teachers, Administrators, Policy makers, and Specialists (TAPS) to apply instructional systems development principles to learning and teaching problems. Instructional Development may be simple defined as a systematic way of analyzing learning and instructional problems and of developing validated, practical solutions.

The purpose of the IDI program is to assist school systems with limited resources, (substantial numbers of academically or culturally deprived students) and a real desire to find innovative and effective solutions to consequent learning and instructional problems. To this end, the SMI Consortium supported by the USOE will, to the best of their ability, provide participants with effective initial training and competencies in Instructional Development. At the close of the Institutes, the participant teams will be taking a specific instructional problem and developing their own validation plans to teach specific student behavior based on what they have learned about the ID system and with the guidance of the ID staff. Also provided, to a suitable Multiplier Agency, after final validation and refinement, will be a representative set of training materials so that other personnel in the district may be similarly benefited. In addition, professional follow-up consultation from Instructional Development Multipliers (IDM's) will be available, if desired, to help assure continued progress and the long-term gains of which Instructional Development is inherently capable.

The ultimate goal of the Instructional Development Institute program is a commitment of time, personnel, money and physical facilities by the participating districts for establishing Instructional Development procedures within the district with the combined support and encouragement of district teams consisting of Teachers, Administrators, Policy makers and Specialists.

The program consists of approximately 40 hours of instruction involving the TAPS participants in the Instructional Development system from the Definition through Development and Evaluation stages.

The Institute experience will include both large and small group activities. There will be large group (LG) instructional settings for major presentations plus numerous small group (SG) sessions for more individualized discussion and interaction among participants.

Institute activities will include simulations, games, opportunities to generate plans and materials on selected local problems and opportunities to analyze and evaluate both individual activities and the Institute program as a whole.

Part II

The Special Media Institute at Syracuse is concerned with the preliminary aspects of the Instructional Development Institute. Phase One of the IDI concerns itself with the development of favorable attitudes towards Instructional Development in the TAPS participants. A secondary objective of the elements of the presentations is to give the TAPS participants a basic common level knowledge about the various major areas in which Instructional Development can assist in the preparation of alternative strategies of solving instructional problems.

1. Time Utilization (e.g., flexible scheduling)
2. Full Utilization of Local Resources
3. Effective Staff Utilization (e.g. differentiated staffing)
4. Independent Study
5. Increased Administrative Efficiency
6. Community Attitude Change
7. Individualized Instruction

The purpose of Phase One of IDI is to capture the attention and interest of the participants by identifying and illustrating common educational problems and some possible tools to be used in designing a solution.

This presentation is a capsule version of Phase One and represents less than a third of the materials prepared for that phase. Time restrictions also preclude the group discussion which is an integral part of each presentation. A more comprehensive overview of the full phase may be found in the pamphlet, "What is an IDI."

The following is a description of the elements of the IDI presentation which will be used here at Grossinger's.

TECHNOLOGY IN EDUCATION

The first portion of this presentation visually shows man's educational development from the caveman's discovery of fire, to Gutenberg's printing press, to the use of computers in education today. The audio portion of this section contains humorous quotations from scholars over the centuries from Plato to Marshall McLuhan.

The second portion moves to the modern school and we see educational media being used for and by children. The audio moves the presentation along happily, then we get a sparse flash of some bored kids, then back to the "niceties" of education, then again to disconcerned kids. To bring this segment to a close, we

stop the music and hold a sympathetically concerned child's face on the screen.

JOE TEACHER

The content of the Joe Teacher presentation involves the values and goals of teachers. This portion is an audio-tape presentation. A teacher is heard in a dialogue with his conscience, and they discuss the usual reasons for a person to enter the teaching profession.

The basis for this presentation is the Edling "Relevancy Model" of attitude change. This model states that in order to change one's attitude toward something (e.g., instructional development) his values must be found, identified, his present approach for achieving or fulfilling these values discounted, and the object or process towards which a positive attitude is desired must be substituted as the best means of obtaining or fulfilling his desired goals.

The values identified in this presentation are:

1. Contact with children/adolescents
2. Desire to be of service to others
3. Regular income, job security
4. Travel opportunities
5. Pride in work (Professionalism)
6. Need for recognition

The Joe Teacher presentation attempts to identify these values and show teachers that they are not achieving their goals through the presently used, traditional methods.

Technology in Education and Joe Teacher are large group introductory presentations. At the conclusion of these presentations the participants will break into seven small groups for small group presentations and discussions. One of these small group presentations is "Who is Miss Brett?" This film, produced by the SMI staff, will be used in the Grossinger's presentation.

After the small group presentations the participants return to a large group setting for the "Administrator Game" which focuses upon the administrator and the problems he faces in attempting to implement curricular change. Stressed in this game is the idea of a team approach rather than the administrator's attempting to take the load completely on his own shoulders. This presentation also "walks the participant through" the nine step model of instructional development which is expanded during Phase II of the IDI.

This concludes Phase I of the IDI, and the Grossinger's presentation. For further information please consult the "What is an IDI" pamphlet or address inquiries to:

Special Media Institute
123 College Place
Syracuse University
Syracuse, New York 13210

GAINING RECOGNITION FOR THE INSTRUCTIONAL MATERIALS COORDINATOR IN THE NEW YORK CITY SCHOOL SYSTEM

by Arnold Winegarden
Norman Goldstein
Morris Freedman
New York, New York

TEACHER OF AUDIO-VISUAL COMMUNICATIONS

The Teacher of Audio-Visual Communications is a curriculum and media specialist whose services are devoted to pupil learning, teacher professional development and curriculum implementation. He supports the educational program developed by the local school board, district superintendent, principals and other professional and community personnel. He translates the educational goals of the district and school into specific instructional goals within his specialization. In his effort to improve his program he is guided by the professional standards set forth by the Department of Education of the State of New York and the Board of Education of the City of New York.

Major Functions

Teacher Training
Lesson Planning and Consultative Service
Local Production
Classroom Services including Library and other Subject Departments
Large Group-Auditorium Services, Coordination of Programming
Technical Service

Teacher Training - Professional Development Services

1. Methods development and utilization
2. Equipment operation
3. Preparation of materials
4. Organizing classrooms for media use
5. Organizing pupils for independent and small group instruction using media
6. New product information
7. New teacher orientation
8. Newsletters, bulletins, periodicals, reference collection
9. Videotape applications to self-development
10. Demonstration lessons

Lesson Planning and Consultation

1. Suggest methods and techniques for using media to resolve teaching-learning problems
2. Identify media related to lessons
3. Assist in preparing lessons in which media are used
4. Provide curriculum materials, bulletins, catalogs, references and other sources
5. Provide sample lesson plans and unit resources
6. Organize instructional and media service regarding field trips and community resources
7. Help organize large group instruction media resources
8. Assist teachers in planning assembly programs
9. Provide opportunities for previewing materials
10. Media appraisals and recommendations for requisitioning

Local Production

1. Preparation of originally designed material such as spirit masters, stencils, transparencies, tapes
2. Copying of materials found in newspapers, periodicals and other sources
3. Train teachers in use of production equipment
4. Assist teachers in design and preparation of media
5. Produce materials which teachers require but do not have the skills to prepare
6. Assist teachers in preparing and using graphic materials for bulletin boards, exhibits, charts, displays, laminates, color lifts, dry mounts

7. Provide photographic services including photo copying, filmstrip and slide production, Polaroid and instamatic type cameras
8. Provide duplication services
9. Assist teachers in audio tape production
10. Provide materials for public relations and community related program
11. Provide materials for school supervision

Classroom Services - Provide for:

1. Distribution of media
2. Classroom arrangements and service for individualized instruction
3. Equipment operation
4. Return of equipment to secure storage
5. Student assistant services
6. Request media from outside sources
7. Maintain all media collections
8. Cataloging and inventorying all media
9. Media requisitioning coordination
10. Specialized instruction in educational communications and visual literacy
11. Coordination of radio-TV utilization

Large Group-Auditorium Services

1. Assist teams of teachers in planning large group lessons
2. Provide all media services
3. Produce needed material
4. Recommend and secure materials
5. Provide for sound system and lighting service

Technical Service - Provide for:

1. All equipment set-ups
2. All equipment repairs through outside contractors
3. Minor repairs and maintenance
4. Microphone and sound system set-ups
5. Public address system operations
6. Film and tape editing and splicing
7. New equipment inspection and service
8. Planning facilities
9. Language lab operations
10. VTR and TV services

DIRECT STUDENT INVOLVEMENT WITH CLOSED CIRCUIT TV INSTRUCTION

Suggested Directions for Education for the Valuing Process Through the Use of Televised Instructional Films

by Grace Lacy
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State Education Department
Albany, New York

PROJECT REDESIGN FOR ACCOUNTABILITY

THE PROBLEMS

The fact that the teacher shortage no longer exists has not solved school problems. Bond issue turndowns often cause schools to reduce the number of teachers. Teachers lack time for extensive preparation for classes. Lack of funds limits the

amount of instructional media available to them. Lack of personnel and equipment for AV centers, along with slow mail service often prevent projectors and screens and rented films from getting to the teacher on time. Teachers often lack knowledge of good new media as well as the techniques for using it well. There is a crying need for humanities education at all levels, yet most of the expertise in these fields is confined to the senior high school level in affluent schools. Present systems of humanities education often depend heavily on reading skills, thus making them difficult for large numbers of students who have reading problems.

Many of these conditions caused the Rochester schools to collaborate with the New York State Education Department, Bureau of Mass Communications in a two-week experiment with direct instruction of 5th grade groups of center city type children via closed circuit TV. Students spent half the day with their regular classroom teachers and the other half day consisted of televised instruction, broken up with gym and art classes during the trial period.

Much of the closed circuit instruction program was carried out by televised instructional films chosen by the teachers to correlate with the social studies classwork. They also suggested that one-half hour each afternoon be used for a value seminar to be carried out by the students, but they had no idea how this instruction was to be accompanied without a teacher.

THE SOCIAL NEED: EDUCATION FOR THE VALUING PROCESS

Education in America in recent times has stressed the teaching of facts and skills. Personal values, those ideas and actions which represent the things that society considers to be good and important to human existence, have been left to the home and church, or to be taught incidentally in school programs mainly through literature.

Today this arrangement no longer meets the needs of a complex, rapidly changing society where there are so many choices to be made, so much freedom for choice, so much dissent regarding established values that many youth are perplexed about what is worthy of their time and energy. The behavior of those who are unsure of what is worthy is often inconsistent. They either overconform or become flighty or apathetic. Some let the crowd carry them along, while others over-dissent, a behavior pattern no more independent than that of the overconformer.

These patterns of behavior are really cries for help--Hippies, Yippies, and other copouts are trying to find new life styles outside of society and are carving out their own set of values; but most youth seek to reform society from within. As a consequence, courses in the humanities, social studies, arts, and even the sciences are attempting to include education for the valuing process and for critical judgment of what is good for the individual and society.

In former, more stable times, it was more possible and valid to attempt to hand down sets of values from the past in toto, and to try to persuade youth to accept them. Today so many advances, technological and others, lead most youth to question existing value systems.

Modern life is rich with choices and opportunities, but it is also very confusing. Sources of confusion arise from rapid social changes, broken homes, working mothers, neglect of children, potent communications media, which reflect ways of life which involve crime and violence. Mobility of families who move from one area to another lead to uncertainty about values. The moral influence of home and church is weakening. Poverty, war, the Supreme Court ruling against prayer, and the inconsistency of advice given to children by adults make it difficult for many youth to develop clear values of their own.

It is impossible to hand down unchanging values. One's relationship to the world is not static, and values evolve and mature as experience evolves and matures. Values involve more than simple extremes of right and wrong, good or bad, true or false. Values which shape behvior typically involve conflicting demands which require weighing and balancing of alternatives and finally an action. Values are involved in hammering out a life style. Whatever values are obtained should work as effectively as possible to relate the individual to his world in a satisfying and intelligent way. Values are personal. They should be chosen freely--they involve a choice among alternatives after thoughtful consideration of the consequences of each alternative. When we value something, we prize and cherish it. We are proud of our choice and do something to incorporate this value into our life. We act on it repeatedly.

Since values are personal, they must be freely chosen by the child, not imposed on him by adults. In order to make wise choices, however, the child must develop habits of examining his purposes, feelings, aspirations, and actions. He should learn how to value.

Traditionally schools have assisted students to value by setting good examples in life and literature, persuading, convincing, or inspiring, or by limiting choices by rules--cultural taboos, or religious dogma. Although these means often get students to accept what society thinks is right, they fail to teach the student to reason out or develop their own values so that they can be responsibly self-directing in an ever-changing world. This latter skill may be developed by assisting the child to clarify his own ideas about a decision he has made.

THE ARTS: TOOLS FOR VALUE EDUCATION

To assist youth to clarify values intelligently the teacher can develop techniques which give the child (1) an opportunity to reflect on what it is they prize and cherish, (2) encourage them to behave and live in accordance with their choices, and (3) help them examine their repeated value patterns. But always, education for the valuing process must begin obliquely. Any direct approach to speaking about love, honesty, kindness, hate, fear, and other emotions which are highly related to valuing is bound to turn off kids and cause them to "clam up" or assume derisive attitudes. Direct approaches almost always arouse hostility and are doomed to failure.

John Culkin says, "Most people believe that communication consists of saying things in the presence of others--Not so It consists in having things heard."

By placing aspects of the environment in another medium such as a book, recording, painting, or film, we can observe them better without distraction. The artist--the filmmaker serve us by making the invisible visible. We look but do not see--pollution has always been with us but only now are we becoming acutely aware of it.

But all great works of art deal with the human conditions. Properly used they are excellent tools for humanities education, since they deal with man's inquiry about life problems. The outstanding art form of the 20th century is the film--not the didactic instructional film--useful though it may be---but the film that portrays some life condition in telling ways.

PROBLEMS RELATED TO THE CLASSROOM USE OF SHORT DISCUSSION FILMS

Few average classroom teachers have sufficient background in the arts to work directly with paintings and other art forms to achieve education for the valuing process, even if they are lucky enough to have these resources at hand. The short discussion film which deals with some aspect of the human conditions is an ideal tool for this end. There are innumerable good, short, nondidactic films which are art forms in themselves, which can be used for humanities education even at the elementary level.

But even the use of a short film presents many problems to teachers. They hesitate to set up screen and projector for a 5 or 10 minute film. Getting the screen and projector and the rental film together at a prescheduled time is often an insurmountable task. Few teachers are well acquainted with the excellent new media now becoming available, and even fewer know the good techniques for using these media well or the oblique approaches needed to achieve the aims of education for the valuing process.

THE ROCHESTER EXPERIMENT

To answer the request of Rochester teachers for a values seminar and to disseminate information on the use of short discussion films, a learning package based on short films was constructed at the Department.

THE DISCUSSION FILM PACKAGE

To insure that the films arrived on time they were videotaped, with the permission of the film companies involved. To insure that the films were properly

presented, short skits involving two puppets, as surrogate students, and a teacher, interacted in a relevant situation which led up to the film showing. Then the puppets and teacher performed in a short follow-up skit designed to evoke further thought about the films and prepare the students for follow-up activities of discussion, creative writing, or other creative work to be done in the seminar or in regular classes. Much of this work was based on related work sheets called value sheets.

The films used were short, ranging from 5 to 15 minutes in length, and were mostly without narration, such as Neighbors (N.F.B.), Boundary Lines (I.F.B.), A Place in the Sun (Contemporary, McGraw-Hill), and Merry-go-round Horse (L.C.A.) which deal with human problems. Also included were Greek and Roman Mythology (B.F.A.) which deals with the sources of value systems. Haiku (B.F.A.), Man and His Cultures (E.B.E.C.), and Loon's Necklace (E.B.E.C.) were also used to provide insight into the values of other cultures since the series was interrelated to the other televised instruction in the social studies in the experiment.

Value sheets were constructed beforehand as well as a teacher's guide for use by both teachers and aides in the use of the videotaped programs. The value sheets consisted of provocative statements which presented a situation with two or more alternatives to be chosen as paths of action. The purpose of the sheets was to lead students to reflect on life situations related to the concepts dealt with in the films. The students are requested to make a choice, and then to envision what might happen as a result of their chosen action. The purpose behind the activity is to actively engage the student in reflective though about his values, to thing about what happens when certain courses of action are followed, and then to judge the worth of that action. There are no right or wrong answers. The strategy of the sheets is to encourage children to think through important areas of their lives to clarify their values, to engage them in the valuing process, and eventually to help them learn to make their own decisions.

Other student worksheets suggested various creative activities related to social studies and communication skills.

The Teacher Guide

A teachers guide for use by aides and teachers included summaries of film content, educational aims of the videotaped programs, suggested related activities, student value sheets for each film, and a Scope and Sequence Chart to clarify both cognitive and affective goals of the videotaped presentations.

The Scope and Sequence Chart reveals the learning goals for each film in detail. For instance, the learning goals for the film Neighbors included: visual literacy. movement as communication, opportunities for exchange of various points of view, langage skills (including the projection of the result of various actions) reading, ideas of symbolism. Cognitive development involved understanding the concept of conflict, causes of conflict, and analyzing the various means of conflict resolution, evaluation of proposed actions and making decisions. The affective development involves reaching the understanding that conflict in life is inevitable and that the best way of resolving it is through compromise and adjustment and that these means are wise and not shameful. Human relations growth comes from learning to analyze feelings first before acting, and realizing that others have valid needs and claims, and thinking of the consequences of actions before acting. A related multimedia bibliography was furnished, as well as suggestions for further related activities. The programs were hurriedly done at the Department (10 half-hour programs produced in two days) with few props as no funds for production were available.

METHODS, RESULTS, AND IMPLICATIONS OF THE TELEVISED DISCUSSION FILM PACKAGE EXPERIMENT

The tapes were shown to the teachers ahead of time and shown to the students during the designated televised instruction periods. Teacher and aides were provided with the teaching guides and worksheets. The teachers involved were not highly media oriented. The students were of the center city type with little or no experience in reacting to situational films. No measurement before or after was made since few tests exist to judge growth in these areas and no time or funds for constructing tests were available. The results were not notably successful, but they are worth reporting for several reasons. First, they suggest

a future means of bringing good short films, along with the requisite expertise for using them well, to many teachers in an efficient, economical and cost-effective way. Rather than lowering film producers' profits, this technique actually creates an appetite for more frequent and better use of short films. Many of the teachers requested purchase or rental of films they saw in these programs. Further, it is suggested that series of such programs could be produced in cooperation with film producers in such a way that the charge to the schools for use of the program packages would be economically feasible for all concerned. Good film is the teacher's most preferred media--yet, it often is difficult to secure on time because of the many problems stated above, and few teachers use it expertly. This experiment serves to point out one approach to the solution of the many problems discussed in this paper.

PHILLIPSBURG, NEW JERSEY: OUR TOWN

by Constance Moy
L. O. Beers School
Phillipsburg, New Jersey

There are many classroom teachers who are creative. They have excellent ideas about creating materials but are not able to receive the financial aid to carry out their projects. The New Jersey State Education Department saw the need to give incentive to the creative teacher. Thus, the creation and support of the "Teacher Innovation Program" under Assembly Bill No. 410. It is known as the "Mini-Grant".

The teacher who had an idea would write a regular proposal telling the background, design of the project and the total financial help requested to complete it. The highest amount awarded would be $1,000.00, which was to be used solely to produce whatever the project was to be.

The proposal was submitted to the State Department for evaluation and consideration. Competition was open to all classroom teachers in the state. The committee in the State Department reviewed and awarded the grants to less than 100 teachers in New Jersey. These grants were to be fulfilled by June 30, 1970.

PHILLIPSBURG-OUR TOWN

This report is an accounting of the preparation of a project carried out by the director, Miss Constance Moy, third grade teachers and specialized persons in the Phillipsburg Public Elementary Schools under the auspices of a grant under Assembly Bill No. 410 - Teacher Innovation Program of the State of New Jersey. The project was entitled "Phillipsburg-Our Town".

The project represents the writing of a children's textbook about the history of their town. It was unique in that it was written by teachers for the child on his reading level. While the material focuses on one New Jersey town in this instance and the local history, it could serve as a pattern for other towns and school communities who want to provide interesting units of work involving local history. These same conditions and phenomena are common to education in all fifty states and, therefore, have implications which extend and apply beyond the geographic limitations of one state. It is hoped that this will prove helpful to any other community who wants to provide interesting units of work.

BACKGROUND FOR THE PROJECT:

Presently we are living in an environment of technology. The function of technological media is to increase the effectiveness of the teacher in the classroom. Educational media are both tools for teaching and avenues for learning;

their function is to serve these two processes by enhancing clarity in communication, diversity in method, and forcefulness in appeal. Except for the teacher, these media will determine more than anything else the quality of our educational effort.

Media may present and teach certain content to the pupils. It is here that the teacherdetermines objectives, selects methods and content and evaluates the final learning outcomes. This may be done with such new media as programmed learning materials, slides, filmstrips, textbooks or a combination of these.

The use of more and more educational materials and equipment for instruction is expanding. Because of changes in curriculum and new programs using technology, teachers require additional knowledge in sources of all types of educational materials. There must be a sufficient quantity of the required types of materials and equipment if technology is to be effective in the learning process.

The small school system of today has unique problems. These stem from the need to meet both complex teaching and complex learning needs and to supply instructional materials designed to help meet these needs.

It was the intention of this project to provide an opportunity for the small school system to produce materials for helping to improve learning opportunities in their individual schools.

There are eight elementary schools in the Phillipsburg New Jersey Public School System which are located in various sections of the town. The total school population was approximately 2,587 students. There were ten classes of third grade students.

Leading educators, who have studied child development and particularly the interests of young children, have found the third grade level a suitable time in the child's school experience to study community life.

The study of community life is made on the third grade level in the Phillipsburg Public School. A social studies text, Your Town and Mine, deals with a typical community. The third grade teachers felt that in conjunction with this study of a typical community, the pupils should become acquainted with the community in which they live.

Prior to 1958 those who taught this study were teachers who were life-long residents or located here and stayed because of their relatives working in local industries. These teachers knew the history of the Phillipsburg community from their ancestors, or stories told to them. There were very limited resources to teach this study.

As new teachers began to come to Phillipsburg, they began to realize that this unit was becoming very difficult to teach as there was a lack of materials to be used in teaching the local history. The library had a rare book collection which was not allowed to be borrowed. Thus, this very important part of the child's life was not being taught.

In 1962, the teachers of the third grade felt that the best way to acquaint the pupils to the community in which they live, was to organize a pictorial presentation of Phillipsburg. This project consisted of two hundred 2 x 2 colored slides and a handbook which included basic information pertaining to the pictures. This planning took place over a two year period. The research of the materials to accompany the slides, the production of the slides and organization of the unit were done by the third grade teachers.

In 1964 the third grade teachers requested more detailed information about Phillipsburg. A committee was formed by those teachers and a detailed Curriculum Guide was produced. It was used in conjunction with the 2 x 2 slides.

These third grade teachers had found it becoming more difficult to obtain additional material, written with the proper vocabulary and content, for the third grade children to read. The teacher would have to read the material first, reword it and then present it to the children. Parents had to do the same. There was no textbook written for the third grade child on local history.

It was the intent of the proposal to have a committee consisting of selected teachers from third grade classes who were interested and who taught the Phillipsburg unit. Other persons would be asked to participate as their talents were needed.

A financial grant of $1,000.00 was made to cover total project costs, including clerical assistance, paper, ink, printing, binding and all materials needed.

PROJECT STAFF:

Project Director: Miss Constance Ann Moy - Beers School

Committee: Co-chairman - Miss Constance Ann Moy, Beers School
Miss Sandra Beck, Sitgreaves School
Mrs. Jeanne Zerbe - Barber School
Mrs. Marjorie Devlin - Beers School
Mrs. Ruth Scheetz - Brensinger School
Miss Elaine Schultz - Brensinger School
Miss Mary Murphy - Brensinger School
Mrs. Martha Sackovich - Firth School
Miss Patricia Clymer - Freeman School
Mrs. Grace Mosher - Freeman School
Mrs. Eileen Shelly - Reese School
Mr. Raymond J. Williams and Mr. Gene P. Healey,
Elementary Supervisors
Mr. John Reed - Reading Consultant
Miss Anna M. Burke - Editorial Consultant
Mrs. Anita South - Art Teacher
Mr. Ronald W. Wynkoop, Sr. - provided many of the photographs

The first meeting of the whole committee was held at the L.O. Beers School in December 1969. All third grade teachers and special teachers were there to discuss a proposal outline and to make any corrections or additions. The teachers were enthusiastic about the writing of a children's textbook.

Teachers had a choice of a beginning topic which they would be interested in writing. Choosing their own topics at the beginning gave them the sense of really taking part in the book as now they would be doing something they wanted to do. Emphasis was to be on a third grade level. These papers could be whatever length they themselves would use in a class lesson. Research was done in the Phillipsburg Free Public Library as well as their own materials. The teachers used the Manual for the slide set on Phillipsburg, Curriculum Guide on Phillipsburg, Centennial Jubilee Book, Diamond Jubilee Book, Golden Jubilee Book. Many teachers used Snell's History of Warren and Sussex County.

At this first meeting the teachers were told that further meetings would be at their convenience and done on an individual basis. Since each person would be writing on more than one topic and all would be different, it would be more advantageous to schedule meetings with individual teachers in their own buildings as the need arose.

The first group of writings were due before the Christmas vacation. At this time the director began to use the talents of a specialized person who would continue with the project until it was completed. The person selected was Miss Anna M. Burke. She was a local resident of the town, knew the area, was a teacher and principal and knew the curriculum of the school. Her duties were to edit all manuscripts for historical content, composition, format, suggest additions, corrections; assist the reading consultant on vocabulary; assist the project director in format, layout, selection of pictures, complete editing of entire book and all clerical work including typing of all drafts, retyping, typing stencils, mimeographing all copies, collating and binding of all books.

Two copies were made of everything that was submitted for first readings by the reading consultant and project director. Mr. Reed checked only for readability based on Fry's Graph. In order to prepare a textbook which can be read by most third grade students, the readability of the material being presented must be controlled. Fry's Graph for Estimating Readability, developed by Dr. Edward Fry, of Rutgers University, was the instrument used for controlling readability in the development of this textbook.

Fry's Graph takes into account the number of polysyllabic words and sentence length as key determiners of reading difficulty. To estimate the reading level of material with the Fry Graph, one selects three-one hundred word passages and plots the average number of syllables and average number of sentences per hundred words on the graph. This yields an estimated difficulty level ranging from beginning reading to college level.

Each specific topic covered in the text, "Phillipsburg-Our Town", was evaluated with Fry's Graph, rewritten and then evaluated again. Some topics were written several times to attain an acceptable level of difficulty.

In some instances a topic yields a higher difficulty level than third grade when plotted on the graph. This is due to the nature of the topic under discussion and/or the need to use proper nouns and specialized vocabulary in relating an accurate history of the town. In order to compensate for difficult vocabulary which students will encounter, unusual or difficult words precede each topic of the book. Thus, teachers will have an opportunity to direct student's attention to words with which they may be unfamiliar before the actual reading takes place.

Three copies were retyped after the topic passed the Fry Graph test. It then went for content editing. If more content was needed either it was sent back to the writer for major changes, but minor ones were done by the editor. It would not be psychologically sound to keep sending copy back to the writer for revisions, thus only major changes were sent back. It was found that only twice copy was returned to the writer. This was due to the fact that the teachers writing copy were fairly new to the school system and the town and historically did not know about the additional content needed. Now these three copies were ready to be inserted in three separate ringed binders. Any changes that were made from now on were made on all three copies. One copy was kept by the editor, one by the director and one kept at the Beers School.

Teachers who had any questions called either before or after school hours and appointments would be arranged to go over materials with them. Other assignments were made as they completed the previous ones. They were given choices among the remaining topics. When all the topics were completed the manuscript was ready for another reading. This was the first reading as a completed unit. The final Table of Contents consisted of:

Indians
Site
Settlers
Ferries
Morris Canal
Early Railroads
Transportation
Old Industries
Present Day Industries
Government
Churches
Schools
Services
Phillipsburg Today

The Reading Consultant, Editor and Director reviewed each topic for sentence length and any word substitution. It was then read by the children in the L.O. Beers Third Grade for reading level and interest. The consultants then decided, rather than placing the vocabulary words at the end of the book, to precede each chapter with New Words or Vocabulary which would be used in the story. These words were selected by children in the third and fourth grades of the L.O. Beers School. The reading level of these children ranged from 2nd through 5th grades. The children read each topic and marked the words they either did not know or felt a third grade child would need help. At the same time these children read the story for vocabulary, they made up a list of questions which was to be used at the end of the topics in "CAN YOU FIND OUT?" The Editor and Director selected the vocabulary to be used in that chapter. Each chapter was checked with previous ones to make sure the word used was a new one and not used in a previous story. Questions were then carefully selected. Three copies of all writings were done in primary type. It was originally thought to use primary type which would be slightly larger than what was in their own textbooks. Again it was re-edited for content, vocabulary and difficult words. Pages were now numbered.

As the book began to take form it was evident that some type of pictures were necessary. Now it became a major part of the book. Many of the pictures used were obtained from a citzen, Mr. Ronald W. Wynkoop, Sr., who had taken copies of old pictures or postcards. He made these into 5 x 7 or 8 x 10 black and white prints. He gave a total of fifty-seven pictures which could be used.

The next step was to check with a local printer to obtain a price to print the book in offset with pictures. It was found that it would be almost three times the total amount of the grant to print 500 copies. It was now necessary to seek a less expensive way to produce the book. The editor and director decided that instead of matching picture plus text, it would be best to select the pictures and place them at the beginning of the chapter which pertains to it. The printer would then be able to do the pictures on offset. This meant another means of producing the text would have to be found. It was thought that mimeographing the text would be best.

Since this was a textbook, a paper had to be used which was not only durable but would not show printing from the other side. The printer gave samples of heavy stock to be used as a test sheet. Test stencils, thermal and regular mimeograph, were made up of drawings as well as primary text. Nothing was suitable. Each time a paper was used show-through was evident. A paper called Kimberly-Venetian 80 lb. did not have any show-through, but like the others used in the test the ink was not absorbed. It seemed to stay on top of the paper and then smear. It was finally discovered that this only happened when using stencils made on the primary typewriter. The width of the type was cutting too wide an impression on the stencils. The result was the ink remained on top of the paper and smeared. It was now decided that the complete book had to be retyped in regular type in order to mimeograph it. This would now condense the book to approximately 108 pages.

Three copies of this were made. It was re-edited for final content, reread for English grammar and correct wordage. The final re-editing was for punctuation. Pictures were matched with chapters, placed in order and then sent to the printer. The printer ordered 60 reams of Kimberly-Venetian 80 lb. paper. It was bound with the spiral ring binder so that each book lays flat at all times.

These textbooks have been given to all third grade teachers and classes in The Phillipsburg Public School. Now in 1970 it is possible for each child in this grade to have a copy to use during the teaching of the unit "Phillipsburg-Our Town." At the end of the unit the books will be collected and kept for the children the following year.

The project has been shown at state and national meetings. Comments from some people who saw it were: "It was something which was needed but you were able to get it produced." Many people wanted guidelines as to how this book was produced, as they wanted to go back to their own communities and boards of education to see if they couldn't do something similar on their own communities. This was presented at the DAVI meeting in Detroit, 1970. Those attending attested that the presentation and idea could be done locally by involving the teachers. It was a practical project and showed that if you believe in a project you will see it completed. This was one project where the idea was considered very good but the finished product was beyond expectations.

A PRESCRIPTIVE PROGRAM USING THE TALKING TYPEWRITER FOR BOTH AUTISTIC CHILDREN AND CHILDREN WITH LEARNING DISABILITIES IN AN INSTITUTIONAL SETTING

by Thelma Kant, Program Coordinator
Gladys Ramos, Teacher- Programer
Ruthanne Shanks, Teacher-Programer
Rockland State Hospital
Orangeburg, New York

I. History and Background

Rockland State Hospital is a state institution for the mentally ill in Orangeburg, New York. Within it, there is a school for about 500 emotionally disturbed children, ages 5 through 16, housed in three buildings: a children's unit, a male adolescent unit and a female adolescent unit.

Most of our pupils come from the ghettos of New York City and are culturally disadvantaged as well as emotionally disturbed. Our teachers are cognizant of the multiplicity of the children's handicaps, and direct efforts towards remediating their deficits and habilitating them.

In the Spring of 1967, a Talking Typewriter was installed in the male adolescent school area. Three teachers were selected by the Director of Education to form a programing team to function in three areas: with the Talking Typewriter (programing and working directly with children), with teaching machines (programing tapes), and as advisors on curriculum and materials.

In working with the Talking Typewriter, the coordinator arranged for training on the use of the machine with the Responsive Environment Corporation. The team read materials on programing, and visited a hospital where the machine was being used with disturbed children. Then the first selection of children was made: three autistic boys were chosen after consulting the physician in charge of the male adolescent unit. Each programer had the responsibility for one boy and observed the others. The teacher was free to use the Talking Typewriter experimentally, working with the child for 15 to 20 minutes four times a week.

Following is a brief account of our experiences with this first group of autistic boys.

John was a hyperactive, agressive 14 year old who babbled "pie, ice cream, Nestle's Quik, see Mommy, go home" as he went to and from the sessions with his teacher. He was overweight and had an awkward gait. He had some schooling before being hospitalized and later it was ascertained that he could read on a second grade level. At first he would not stay in the booth for more than one minute, dashing out of the room to return to his ward. Many techniques were employed both in and outside of the booth, including handling of books and writing materials, operant conditioning, kindness and patience. To summarize, after a year and a half, John was typing programs, following instructions, doing arithmetic, and reading from fourth grade books. He responded to directions, answered questions in a limited fashion and no longer required M&M's to perform tasks. He was more sociable and adaptable in the school setting, frequently asking to overstay his allotted time. Unfortunately, at age 16 he was transferred to an adult building on the hospital grounds and removed from our program.

Jose was a withdrawn yet aggressive Puerto Rican boy whose only responses were "si" and "yo no se" (I don't know) when he chose to respond at all. He had schooling in Puerto Rico to grade four. Jose responded minimally to commands, but used the booth mostly to watch himself in the one-way mirrors as he acted out fantasies. He was a soldier, a matador or whatever, and never tired of examining his face in all sorts of expressions and contortions. Attempts were made to guide his activities in Spanish and English, and it became apparent that he understood simple English well enough, although he denied it. Later, the mirrors were covered to encourage more attention to the typewriter. He then followed directions reluctantly, frequently lapsing into staring or singing. Because of his lack of response to the Talking Typewriter, his teacher decided to remove him from the situation for several weeks, seeing him at the same time each day for tutorial

sessions. He glanced at books when directed to them, did some arithmetic, wrote in Spanish and English in a notebook, and could be motivated by material on Spain. After a total of about 100 sessions both in and out of the booth, he was placed in a special group in our school on a fifth grade level where he did assigned work although he did not participate in group activities. He is being maintained in a classroom setting at this time.

Robert was a mute 14 year old who was beginning to adjust to the booth when he was transferred to another hospital. This taught us abruptly that our program was subject to hospital procedures, and helped us brace ourselves for other such disruptions through the years. We replaced him with Richard, a mute 9 year old hyperactive boy who constantly smiled and touched his teacher, wanting to be cuddled. He soiled himself several times a day as an attention getting device. He had speech but preferred gestures as communication. The Talking Typewriter helped him enough so that after a year of sessions he had stopped soiling, whispered loudly in response, and sat still enough to be admitted to a kindergarten class in the school program.

Based on our experiences with these three children, we established a pattern for our program with the autistic. An assessment of our work with these children will be found in the final section, "Conclusions."

With this background and a slight shifting of duties, we were ready to expand our program. In the six week summer session our school had in 1968, a full day schedule was planned for the Talking Typewriter. A pilot program was initiated to enlarge the work with the autistic, and to create programs for our emotionally disturbed children with hard-core reading disabilities. We arranged with the State University of New York to obtain the services of a doctoral candidate-teacher, who, with the coordinator and a teacher-aide, worked with six autistic boys and six with reading disabilties. In the first group, the original three remained, and three others, one schizophrenic, one mental defective and one brain-damaged boy were added. The latter two were discontinued at the end of the summer, placed in kindergarten classes, and were replaced by two other autisitc children in September.

The six boy with reading disabilities were selected by the team based on the following criteria: ages 14.0 to 15.0, in residence at Rockland State Hospital for at least two years, and reading level of 1.5 or lower as scored on the California Achievement Test. Their teachers were consulted, and personality characteristics were considered. Then they were assigned as a group to a classroom teacher who re-enforced the work they produced in the booth. Each boy had two 15 minute sessions in the Talking Typewriter weekly.

After an introduction and some exploration on the typewriter, they were put into reading programs. These were constructed from constant observation by the teacher working with the machine, and encoded by the aide. Nothing was purchased but blank program cards and magazines for slides. Thirty nouns were selected from the Dolch list, (Appendix I) and pre- and post-tests of word recognition were administered from them. The maximum number of sessions during the six week period was 10, but this was not possible in most cases. Yet there was marked improvement noted in behavior and attitude toward reading, as well as learning generally. The boys looked forward to their sessions and, except for one, attended as regularly as possible. Most of them were carried over into the regular school year; however, in less than one month, three were transferred to another part of the hospital.

In the fall of 1968, a full schedule was set up by the coordinator with the two regular programer-teachers and an aide. Seven autistic boys attended from two of the school units; and 12 boys and 6 girls with reading disabilities were selected for a total of 25 children seen. The autistic attended four days a week for 15 minutes a day; the children with reading disabilities attended two days a week for 15 minutes each session. The latter 18 were assigned to related classrooms and rotated by schedule into the Talking Typewriter.

These children had to be 14 years old and have resided in Rockland State for at least two years. Thus we hoped they would be in the program for at least one year (they are transferred to the adult services at age 16), keeping in mind that they might be discharged from the hospital at any time with medical approval. Since our school schedules classes twice yearly, we knew that they could have been

instructed by as many as four of our experienced teachers and still not have learned to read. We held conferences with teachers and doctors, when necessary. The Roswell-Chall Diagnostic Test was administered, and the children were pre-tested on our list of 30 basic words. When a child was discharged or transferred, another was added, so that the Talking Typewriter was operating at maximum capacity throughout the school year.

A fundamental decision had to be made at this point: were we to do research or teaching? Since we are teachers primarily concerned with the education of our children, we made our records anecdotal rather than statistical. We wanted our programs to satisfy individual needs, and tested them only in the sense that they were suitable for the child. We followed current methods for making good lesson plans and incorporated all our knowledge and skills as educators into the programs. We felt free to use or not to use the Talking Typewriter; when conditions seemed appropriate, children were removed from the day's planned program. Chalkboard and desk activities, books and games were always available for alternate activities. In other words, we were engaged in prescriptive education, using the Talking Typewriter as one of our tools.

A program of reading readiness was developed, starting when necessary with instruction on colors, introducing the alphabet keyboard, and progressing to words and sentences. We used the Talking Typewriter as fully as possible, taking advantage of its multi-sensory devices in many ways. A carbon copy of each day's typing was returned to the cooperating classroom teachers for follow-up and enrichment activities. Re-enforcement also took place in the Talking Typewriter room.

We adhered to a rigid time schedule for two reasons: every moment of machine time was accounted for and we wanted to modify attendance behavior. We demanded promptness and personal responsibility for attendance. Absences were sternly questioned and tardiness resulted in a shortened session for the offender. In time, good habits were established in these two areas.

In September 1969, there were some changes in our use of the Talking Typewriter. The two classes of autistic were continued and one group with severe reading disabilities remained, but two innovations were instituted. One group was assigned to the teacher-programer intact from the automotive shop class. Eight non-readers, ages 14 through 22, met daily in the room for work in the booth and at their desks. The multi-media approach was carried over to their seat work: books, filmstrips on job orientation and attitudes, records, transparencies, etc., were used in this team-teaching class. Response has been very good. The combination of individualized instruction, group instruction, vocational and academic activities, and team approach has sparked enthusiasm and learning.

A second innovation involved a classroom teacher and 6 girls, non-readers, who used the Talking Typewriter for two consecutive periods daily. The volunteering teacher had attended the programing team's mini-workshop during the previous summer session and wished to work directly with the machine. Utilizing previously prepared programs, the teacher conducted the class while the aide attended the booth. The teacher and aide were able to modify programs for individual needs before the class met each day. This skilled teacher employed a variety of techniques, including operant conditioning, but it was questionable which had more appeal for the girls - the candy or the Talking Typewriter. One girl was discharged before the CAT could be given, and one had an identical score. However, the others improved in reading from 2 to 9 months over a 4 month period. Their teacher was pleased that it was possible for the first time to test these girls. She was most enthusiastic about their social improvement. She can now communicate with them, and finds they are accessible and open to learning.

A point to be stressed in discussing the Talking Typewriter program at Rockland State Hospital is that no commercial programs were purchased. All programs were created by the team, prescriptively, for the children scheduled. Needless to say, the multi-sensory features of the machine were utilized to take full advantage of this sophisticated tool. As work progressed, all programs were filed and frequently it was possible to use a program for several children. Thus we now have a library of 75 programs to teach beginning reading, which is basically satisfactory to the needs of our special population.

Description of the Talking Typewriter

The Talking Typewriter, a teaching device produced by the Thomas A. Edison Laboratories, consists of a computerized electric typewriter, a tape recorder, speaker, viewing screen and slide projector. The machine is enclosed in a plywood booth with a one-way glass to allow for close observation, with a telephone/intercom for verbal contact with the student.

The machine can operate in three phases. It can be used as an almost standard electric typewriter with large type. Each row of keys in the normal typing position is color coded for proper fingering. In the second phase, the machine tells the name of the key struck. The programer has the option of encoding the letter, name, the color of the key, a phonetic symbol or any other clue that may be preferred.

The third stage is the programed phase. The program card has a backing of magnetic tape which records two types of information. First are the recorded verbal instructions to the child, such as, "Type the name of the picture on the screen." The second are actual machine instructions such as Projector On, Upper Case, and other codes to actuate the machine. The card contains 15 lines, each capable of containing 62 bits of information, including 8 ten-second recordings.

The visual clues consist of material typed on the front of the card, and/or slides projected on a small screen in the booth. We assemble slides from sheets of clear plastic and super-slide frames for approximately 3¢ per slide, on which we draw and write. To complement the programs, we also photograph real life situations or printed materials.

The control panel outside the booth allows the teacher to keep track of the number of times the student has struck the typewriter keys, and the amount of time he spends in the booth. Some teacher-controlled variables are delays in cues, type of cues (letter, color, phonetic sound of the key pressed), frequency of cue repetition, area of the card to be seen by the child, and the portion of the program to be done by the child.

II. Principles and Content Used in Programing

This discussion will deal with programing for our emotionally disturbed, disadvantaged children with hard-core reading disabilities, rather than for those with autism.

Our children have been exposed to many conventional and modern approaches to reading, yet have failed consistently. One of our primary concerns is to motivate them. However, to interest emotionally disturbed children in reading when they have so often experienced failure, is not an easy task; above all, when that pattern of failure is frequently intensified by the learning environment. To plan, write, and program for adolescents who do not know how to read and who are hostile to books and learning, presents a challenge. We have found that it is to our advantage to have the Talking Typewriter to motivate them. The machine makes this task a little easier because it is an attraction in itself. A typewriter that talks naturally arouses curiosity. How does it work? What is it going to say? What does it want me to do? These are typical reactions stimulated by this sophisticated and glamorous machine. But the attractiveness of the machine is not enough. The subject content, its presentation, and the flexibility of the programs play a most important part.

The content may deal with topics in current events, like rockets or hippies. It may include concept building and speech patterns, especially for the benefit of those who are Spanish speaking, and who have a language difficulty. Although most of the children we select are adolescents, they are non-readers. Therefore, we have a program for primary reading, but we attempt to keep the content on a high level in order to interest these older children.

We found it necessary to create our own programs for many reasons. Commercial programs are designed for normal teaching situations, not for emotionally disturbed classes. The programs may be good but they are not appropriate in our setting. Similarly, although most of the material purchased by our school for classroom use are high interest, low vocabulary books with mature content, we find they are not really accurately graded for our special educational needs.

Secondly, commercial programs are expensive, and our school operates on a limited budget.

A third and very important reason is the fact that we must program for individual needs. Our programing is based on diagnostic analysis. We use the machine mainly for prescriptive teaching. Since we were given a free hand from the inception of the program, we decided to use this tool innovatively. To make optimum use of it, we made the decision to write prescriptive programs, to remedy the child's difficulties and to provide work on the skills that he lacks. We program to increase knowledge in subject matter areas such as current events, various phases of social studies, science, spelling and writing. Special material is presented to help perceptual development and also give the child a sense of social awareness.

While a child is helped to overcome his block to learning, he moves ahead at his own rate. Should a child's behavior indicate that one step of a problem is too obscure or complicated, it is broken into smaller steps or units to insure his success.

The selection of children for this program is based on their abilities, potentials, and deficits. We select children who have failed to make academic progress and social adjustments in the classroom. To evaluate the child's academic performance, the CAT, Roswell-Chall Test, and the Dolch 95 Common Noun List are used. This is where careful diagnosis of difficulty plays an important role. As part of the diagnosis for prescriptive programing, we observe the child for visual motor deficits, reversals, letter confusion, stumbling, hesitancy, omissions, left to right direction and substitutions. We also observe social and emotional factors involved in learning, such as hyperactivity, somatic complaints, posture, hostility and shyness. The anecdotal school record of every child is examined and teacher conferences are held by the programers, for best possible placement in a related classroom.

All this precedes any programing. As a result of these tests and observations, prescriptive programs are developed. Our two-fold goal is to program for a child's weaknesses and to motivate him. The specification of which skills need to be developed is the most basic requisite for our programing. Material is chosen on the basis of its relevancy to the instructional objective. Programing is done to best meet the needs of each child, and at the same time make learning enjoyable. Then the child can proceed at his own rate to develop those skills in which he is weak or deficient.

Some of our prescriptive programs provide training in overcoming reversal tendencies and letter confusion. Others stress a steady left to right direction.

Additional readiness activities programed for our children stress socialization. These are especially helpful for shy children who are reticent about entering the booth and the planned programs. Blackboard activities are also employed to interest them.

Tasks drilling similarity in the sound of rhyming words are prescribed for auditory readiness. We programed the names of most alphabet letters and colors, and some common word families with initial consonant substitution. The poor word recognition level of the children lead us to create programs in the mastering of sight words. In some cases, names were individually programed for personal identification.

Language growth is stimulated in many ways, including listening to poems and rhymes; discussing experiences such as home visits, trips, ward activities; and identifying pictures.

Through all our programs, following directions is emphasized.

The inability to blend sounds together into whole words has always been one of our great concerns. We recognize the great deficit in this skill among the children involved in the Talking Typewriter program. For that reason, phonics programs will be produced in the near future. At present, the teacher uses the intercom to supply the blends when needed.

Programs provide vocabulary pertaining to things with which most of our city children are familiar, such as traffic and subway signs and place names. We have also created some practical programs on job applications, general personal information (Where do you live? How old are you? etc).

At Rockland State Hospital, we have been programing for the past two years. To this date, we have been concentrating our efforts on readiness through second grade reading level. Each card or program introduces a specific objective. The child is made aware of that aim. It is a program to help his individual needs so he ought to know what he should accomplish. A program might say, for example, "Today you are going to learn to write the word rocket." That is the specific aim, and he knows that at the end of the program he should be able to write the word rocket. The presentation and development of different programs will vary. A variety of activities will reinforce and apply what is taught. Activities may be typing; writing; reading poems, songs, or stories; and the completion of phrases, sentences, or rhymes.

The content in a simple program must be a carefully organized sequence of material to assure the most comfortable learning conditions for the child. Directions are stated simply and clearly. Steps increase gradually in difficulty. After a step is introduced, it is reinforced, reviewed, and practiced until the child feels comfortable and happy. Because of the nature of the Talking Typewriter and the structure of the program, he will have experienced success. We have found that it is essential to plan small, independent units of learning to make practical the ideal of prescriptive teaching.

One of the desirable characteristics of the Talking Typewriter is its capacity to involve more than one sense. The multi-sensory features are employed extensively in our programs. The projector is used constantly; the voice of the machine is used; and the child is required to type or respond verbally.

The booth provides isolation, thereby eliminating distractions and peer competition. The impersonal machine presents the stimuli and the child interacts with the machine. The Talking Typewriter can repeat material as long as necessary, patiently and consistently. A good name for this concept of teaching might be "the remote teaching approach."

When a child is in the card phase, the visual material is presented either on the screen or on the card face. We rarely use the card face because the plastic lid over the typewriter compounds the visual difficulties that many of our children have. The material is introduced: the child sees it, hears it, and must respond to it. Depending on the programed instructions, he will respond orally or by typing. He receives immediate reinforcement or correction. Another feature of the Talking Typewriter is that the child records and hears a playback of his own speech, which he can compare with the correct answer. This also aids the teacher in identifying and diagnosing speech and hearing distortions, which can then be remedied.

The instructions for completion of tasks must be simple so that the specific learning objective is not obscured. For example, we easily employ the word "word" in such contexts as, "Give me another word for (blank)" or "Tell me a word that means (blank)." For many disadvantaged children, the stream of verbal expression with which they react to their environment has not been recognized as consisting of smaller significant units of speech - words. Thus, at times we find that what seems to be an inability to learn is a misunderstanding of the nature of the task. Once a pattern of instruction is comprehended, we work in that context to present new material.

A similar problem is that of phrasing. What is intended as a positive reinforcement is sometimes interpreted as a negative comment. For example, the activity in which a child can make a mistake is the reading and recording the material he has just typed. In programing, we must consider either a correct or incorrect answer in the verbal commentary that follows his response. In several instances, we had recorded the following: "Did you say....? You should have because...." Thus usually served as an immediate correction for a wrong answer or a positive reinforcement for a correct answer. However, for some children, the very phrase, "You should have...." was a completely negative reinforcement of their disabilities. When the answer they gave was correct, they became indignant with the machine's comment. In this type of situation, the child can become

abusive to the machine without fear of retaliation. However, this is not a desirable condition. Only constant observation of the child as he works can reveal his reaction to such inappropriate instruction. Usually the negativistic cues are subtle signs which are extremely difficult to perceive if the teacher is personally interacting with him.

We noted early in our programing experience that some children could memorize the verbal material for short periods of time and would merely repeat it when asked to read. This served to compensate for their inability to read, and for a time, hid the fact that they were not really reading. We became aware of this when several children began to perseverate on the sentence to be read and introduced more distortions on each succeeding rendition. Since then, we have tried to program activities between the programed material and the child's attempt to read it. This then became a real testing situation.

The free typing phase of the Talking Typewriter allows for testing and provides time for free expression within the structured program. The child may type what he has just learned, he may react to the material, he may reject the opportunity to type freely by returning to the programed material. Simply, he is free to type whatever he wants, whether or not it is relevant to the program. The teacher observes and can guide the child by means of the intercom and, if necessary, by physical intrusion. At times, the free typing can be used as a reward.

Free typing is not always desirable, however. One of our autistic children had progressed to where he could tolerate the programed material. Previously, he would type only numbers. After several months, he was slowly weaned from that fixation. However, when given the opportunity to type freely, he reverted immediately to his earlier behavior. His insistence on typing only numbers became so severe (including biting, scratching and screaming), that we could not allow him to work in any program that had the free typing phase. In other cases, children cannot tolerate lack of specific direction and are at a loss when allowed free expression. The teacher decides when free typing might benefit the child.

One of the features of the Talking Typewriter that the teacher can control as the child is working in the program is the keyvoice. The machine can call the name of the letter to be typed, its color, or whatever clue the teacher deems helpful. Usually, when a child is in the early stages of working in the Talking Typewriter, he needs the keyvoice to locate the right keys. As long as it is supportive, the keyvoice is utilized. However, at a certain point it may impede the child's progress because he begins to recognize larger units, such as words or short phrases. Then, the interruption of the voice breaks his train of thought. The teacher must recognize this hazard and silence the keyvoice when necessary.

We have found that the repetition of certain functional words and phrases in the program has served to reinforce acceptable language usage. For example, the programed instructions are explicit and demand specific action in order to proceed. Therefore, the child must punctuate properly and leave spaces between words. Without actually stressing points of grammar, we note that they seem to be learned by habitual use.

Following is an outline we have developed for programing the Talking Typewriter for our emotionally disturbed non-readers. These are our guidelines for programing common nouns.

I - Initial Presentation

A. State Specific Objectives - child should know what he is supposed to do

B. Present Material in Context

1. Words in rhymes, jingles, short phrases, picture with label, etc.

2. Different examples of same word - concept formation - (ex., house.. presented in pictures with different types -- apartment, hut, tent, Cape Cod, etc.)

C. Involve as Many Senses as Possible

1. Using letters - example -- name of letter called, color of key called, arrow follows letter by letter on card; child types

2. Using words - example -- picture, word, jingle; child repeats the word, child types

II - Reinforcement Activities

A. Material in Context - As in Initial Presentation

B. Typing

1. Words in isolation

2. Words in phrases

3. Words in sentences - certain forms used constantly, ex., "This is..." "The ___ has..." "The ___ is ..."

4. Word drill - letters omitted

5. Fill-in of word missing form sentence

6. Choice - gross and fine differentiation

7. Type from memory - aided by dictation or picture

C. Reading

1. Read along with program voice

2. Read alone, recording own voice, with opportunity for self-correction, always followed by correction or reinforcement

III - Evaluation

A. Cognitive

1. Typing in program

a. No possibility of error - keyvoice off, but typing controlled by machine (as in II B)
b. Possibility of error - free typing, teacher must observe

2. Reading in program - speed and accuracy of response observed

3. Pre-post tests - Dolch, CAT, Roswell-Chall, teacher-made tests using programed vocabulary

B. Behavioral Modifications As Seen In:

1. Motor activity

a. Hyperactivity
b. Control and coordination

1) moving around booth
2) fine controlled activities - hand and finger movements

c. Method of keyboard attack - generally becomes more direct with child's feeling of security in program
d. Speed of response

2. Somatic complaints - "Can't see," "Stomachache," "Headache," etc. -- disappear as child feels less threatened

IV - Related Classroom Activities

A. Program print-out used as material for reading and writing in the classroom - worksheets developed using program vocabulary

B. Material developed in classroom can be programed for work in the machine

C. Perceptual development activities

D. Relevant printed material obtained from the school library

E. Use of commercial and teacher-made audio visual material

III. Conclusions

Before presenting conclusions, we wish to reiterate our position on record-keeping. Our records are anecdotal and our analysis subjective because the programing team is composed of teachers. Our backgrounds did not include intensive training in statistics or research design, nor did we have the such services available. Acknowledging these limitations, our evaluation of one and a half years of intensive programing utilizing the Talking Typewriter follows.

In our work with autistic children, we found that their attention span has improved and has been sustained for increasingly longer periods of time. In most cases, focus has been transferred from the machine to the people working with them. Their behavior has improved - hyperactivity has decreased, bizarre behavior such as babbling, screaming, nonsensical talk or echolalia has diminished and in some cases disappeared. They seem to be more alert, less manneristic and more relaxed. Communication and speech has improved and relationship with adults continues to develop. In some cases, learning has been possible through careful, prescriptive programing.

The use of the intercom feature has helped make them aware of their speech. The booth permits the employment of carefully selected stimuli, such as that made available by the slide projector, and isolates the child from extraneous, irrelevant material. This restricted stimulation has promoted communication and participation through directed activities.

We have noted that non-directive free typing with these autistic children seems non-productive. David is a good case in point. He would type only numbers, constantly, never tiring of them nor voluntarily switching to words. He screamed, scratched and bit if attempts were made to guide him away from numbers. After several months of consistent commands, there was a gradual withdrawal from numbers to more reality related content. His tolerance for completing academic tasks increased, accompanied by decreasing reliance on numbers for gratification. This withdrawal was achieved by allowing him to return to typing numbers as a reward for completing sections of lessons in beginning reading. The need for long periods of reward decreased to the point that it could be delayed to the end of the 20 minute work period.

The autistic child may very well need to return to the familiar at times to reassure him, but he perseverates in his particular idiosyncratic behavior when he is not coaxed, cajoled and guided into other activities.

We would emphasize that a combined use of the booth and good educational techniques tailored to the particualr child is most effective. We consider the Talking Typewriter just one of the tools by which it may be possible to reach children who have not been able to respond before.

With reference to children with learning disabilities, again we find that behavior has been modified.

Although standardized tests do not always reveal advances in academic achievement, observation and analysis of individual children indicates that learning has taken place.

Specific perceptual and cognitive deficiencies can be identified through close observation. The interaction of the child and the machine permits the teacher to concentrate on recognizing disabilities without the need to be involved personnaly in the learning situation. Material can be programed to help correct disabilities such as confusion in reasoning skills and methods of attack, poor motor control, and visual and auditory discrimination.

There has been good ego enhancement. Children are proud to be using such a sophisticated machine. They comprehend that this is their machine and that the work they do is prepared just for them. The minimizing of errors increases their self-confidence. Most have built a good relationship with their teacher-programer, having been accepted by a warm adult who is highly skilled in dealing with emotionally disturbed children. Their peer relationships have improved as their self-image is strengthened.

Positive changes in attitude toward learning have occurred. Reading is not as threatening and success comes more readily because of the nature of the operation of the Talking Typewriter. As in any case of individualized instruction, the stigma of failure is minimized. A child's peers have no knowledge of his failings; learning takes place in private. The Talking Typewriter insures that he cannot make a mistake in the program. Self-confidence replaces hesitancy in learning. Hyperactivity decreases as a child finds his random responses and frequent errors are inappropriate. Because he is not able to type mistakes, he soon develops a suitable method of attack. Through observation, the teacher-programer can pinpoint the misunderstandings that have been hidden in a flurry of random activity and can adapt programs to correct the specific error.

Generally speaking, in view of the many benefits to be derived from this program, the team has found it productive to try to inform and interest the entire faculty. We conduct an orientation and/or refresher session annually before classes begin in September. We volunteered to hold a mini-workshop within a summer session workshop in 1969. During this, three faculty members received instruction on programing for the Talking Typewriter; they constructed material and observed children working in the booth. Although they had only a few sessions, they are interested and aware of the viability of our program. To put it simply, our program thrives on interaction with the total school community. The more teachers understand the complex working of the machine and its potential for education, the more they will support the program, and recommend children who can benefit from using it.

In conclusion, the programing team at Rockland State Hospital is convinced that the Talking Typewriter can be an effective teaching tool when used prescriptively with emotionally disturbed children in an institutional setting.

Appendix I

30 Common Nouns From Dolch List

back	horse
dog	home
bird	house
birthday	money
brother	mother
chair	night
children	party
day	picture
father	ring
feet	sister
floor	street
flower	table
grass	watch
hand	wind
head	window

LOOK WHAT TURNED-ON KIDS CAN TURN OUT

by Sheldon F. Katz
Kakiat Junior High School
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Twenty-five kids turned, pushed, squirmed, and shoved each other with great elan in order to see who could get closest to the TV set--all this with teacher approval, no less. The class was about to see their own version of a television spectacular, and of course, excitement permeated the place. This "spectacular" was a bit unusual. The class had picked one main theme, and then divided into a half-dozen groups. Each group had to come up with their own idea of how to communicate that theme through the media of television. The theme was "What Is Human?".

The equipment was not fancy by any means but the imagination of the kids made up for any lack of hand. The classroom was turned into a miniature studio and the students handled a closed-circuit TV camera, a monitor, a video tape recorder, a microphone balanced shakily on an improvised boom, and a few lights. Some youngsters acted out skits, some had montages of still pictures set to music: one group compared an ape to man; and one group set up a collage of photos with background music entitled "Eve of Destruction." That last one was quite an indictment of man and his peculiar empathy to war while other groups minced no words, pictures or actions to let on that mankind needed improvement. One group was not so harsh in portraying the theme that People Need People, but they too put forth an urgent message.

These youngsters did all this on their own. They selected the theme and then decided that television tape was the best media for them to get across the various messages. The grouping was by their own choice and then they went to work. Each student was assigned a responsibility in research as well as the gathering of physical properties needed for the broadcast. Surprisingly enough, the kids did pass around the technical jobs so that almost everyone got a chance to do some of the work with the television equipment. Later another show was produced so that the rest of the class had a chance doing the back stage work of television.

The spectacular was put on as a result of many different media. The students used the resource of the written word through books, stories, poems, and their own writing of scripts. They also used still pictures, snapshots (that they themselves had taken), and photographs from newspapers and magazines . Finally, they put to use the oral word in narrating some of the sequences; music for many of the scenes, and body expression when acting out certain bits. Playing it back on television tape gave rise to the moving image. For youngsters who live in the world of multi-media, this was their chance to put it all together and they certainly did not blow it. They did a great job and there is no need to qualify that statement by remarking that it was an eighth grade class.

While this television show appeared to be the highlight of the season (alas, academic season) this was not merely a gimmick to squeeze by the warm weather blues and the inevitable spring fever admirably suffered by students and teachers alike. This class, like the others of mine, had spent the year on various visual projects learning that these were methods of communicating and relating to others in this world. Many times, in many places, many people have stated that we are now educating a visual generation that travels through its eyes, a generation weaned and nourished on television and movies. Yet, a goodly number of teachers stick to old "tried-and-true" methods while the kids slip away untouched by educational hands. Too many school boards, in the race to save a tax dollar, feel that they short-cut the education process by harking back to the 'good old days'. Alas "them days is gone forever."

Kids, who have sat through thousands of television hours, and had learning experiences through all that, are not about to stop mental wanderings when some one wants to lecture at them for forty or fifty minute clips. We educators are in competition with the visual arts and we should start to make the best of it. The best of it is education and, watch it now...fun.

While my emphasis, with visual education, has been on the process and not the product, the kids have turned out some marvelous pieces of work. They are not to

feel that everything must be technically perfect, for this is not a course in film making or television production. They do not handle expensive equipment and every effort is made to see that no student pulls off a caper with cameras costing $500 or more (and that is possible).

One of the classes was in correspondence with classes around the country as well as a class in Israel. We had exchanged ice-breakers in the way of letters telling about the class in general and then the students in particular. Then each student picked out a pen-pal of his or her own (yes, the boys wanted to write to the girls and visa-versa) for letter-writing, and that was followed by an exchange of audio tapes. The class then decided to give their overseas friends a tour of the school via a slide-tape production. The involvement of research about the school, the different classes, the school personnel, and the students was wonderful. Everyone truly pitched in and did a job. The students wrote out a shooting script and detailed what pictures, or slides should be taken where. Everyone got a chance to do some shooting. Let me add here that you do NOT need an expensive camera to do the job. While a single-reflex camera is terrific for slides, we got outstanding slides from a very inexpensive instamatic camera. After the slides were developed and put in order, the narration which was actually more in the form of dialogue was put on tape and each student had the chance to talk on tape.

The finished product was something to be proud of! Before shipping it to lands overseas, it was shown to an in-service course and for many of the classes in the school. That production did much to generate school pride and school spirit, and every kid knew that he or she was a "star" on slides and on tape. After getting it back from overseas, the students presented it to the principal who was retiring that year.

For "reluctant" learners the slide tapes are an incentive that encourages reading and writing without the student really being aware of what is happening. It all "sorta creeps up on 'em." In the background the teacher might subtly urge that the class select a theme to work on, something such as "friendship", "work", "couriosity", "trust" and so on. After selecting the theme, one of my classes, for example, wrote up a story book and shooting schedule. They also did research on the various ideas that might fit into this script. After shooting, getting the slides, and then putting the slides in a tentative order the kids did more research in the way of poems, adages, and other relevant background material. Everyone in the class got a chance to recite something on tape. The results were startling starting with the sheer excitement of seeing a job come to a successful completion.

The subject of the so-called reluctant learner lends an idea or two at this spot. There has been so much written about the below average, slow learner, etc., child (and those are expressions that I detest). We have tested those kids and labeled them kids unable to do anything of regular value. Rot! Stop testing and probing; stop treating them as being on the verge of the animal kingdom--just let them DO. One of the slide tapes produced by a reluctant class has been shown over a hundred times to other classes, in-service courses, extension course at the local community college, a Rotary Club meeting, and on and on. That slide-tape was always well-received, and I made a point of letting those kids know how "famous" they were becoming. That little boost to pride and ego went a long with them.

The audio tape by itself is quite a weapon to train on a class. As with TV tape, it produces instantaneous results. The success of a project is attained with the play-back of the tape and the youngsters are ever eager to hear the sound of their own voices as well as "what was said." Some teachers use the tapes in the classes of speech and drama to great advantage. Social studies teachers have produced "radio shows" about 'great moments in history' by clever use of the audio tape. Those "great moments" are well researched by kids who scour the libraries for exact facts and background color and the scripts outdo by far the usual but tame essays on the same subject.

Correspondence by tape has been a favorite device for many of my classes and as mentioned earlier, they correspond with kids around the world with tape. Reluctant classes worked for days on end doing a play for taping. Many radio shows were available from anthologies that were suitable for these kids, and there was no "talking down" to them either, and one can imagine the amount of reading and talking and listening done by them in the process of a single radio play! Putting book reports in the form of a newscaster for a radio station (and perhaps having

the announcer interview the author) could perk up the lagging interest reading those extra books. Have the class put these reports on tape and then send them to a class in a far off school for evaluation.

Are they easily understood? Did the main points get across? Enunciation O.K.? Etc., etc. Let the other class make comments and all about the tape and then have them send a tape to your kids. Easy to see that the students will start to read more thoroughly, speak a little clearer, and spend more time on reports to make sure that the corresponding school kids will understand the report.

Movie making is not merely a splinter of the fun-and-games platform. Once again, the students did not get tangled in the maze of grandious equipment, but rather they were using a medium in order to give forth a manner of expression. One of the movies dealt with a teen-ager who took LSD at a party and then went on a "bad trip." They did not preach or editorialize, but instead they presented their version of such an occurrence. Educationally it could be said that they attained certain skills since ideas had to be presented and voted upon, scripts written, shooting scripts made up, and so on. Much activity in the way of research, writing, reading, and speaking was accomplished. However, the result was a class essay on the effects of drugs and since the students participated in this venture it might be safe to guess that the impact of the film was greater than any lecture that they might have to suffer through concerning drugs and their dangers. Other students who saw this film could easily relate to the work of their peers and many discussions were touched off by students and teachers.

Another film that reached the kids was one about cheating on tests. This one was an exaggerated version of what happens to a proctor and his "wards" during an examination. Once again, this was something that other students could easily relate to, and they were also making a comment on the world of pressure, prestige, and pedagogy. The reluctant class, mentioned previously, did several films including one about a party. That film had a lot to say about the "tough" kids and the way they conduct a party. The film had the underlying current of their opinions concerning law-and-order, and perhaps it was better to see the opinions come out on film than to have them smolder within the kids indefinitely.

Some films were just the pure joy of living as expressed by the kids, but these films also served as learning experiences for the students. All of the films were 8mm. (super and regular) and mostly in black-and-white since that film was cheaper to buy and process. The students learned to get across the ideas without words and so there was no need to have to syncronize sound to the films. The cameras were ones dug out of someone's attic and the lighting was primitive at best. Once again, the emphasis was on the students and the learning process and not on the polished product. This is not to suggest that shoddy material was acceptable, but to show that learning takes place as the student goes along with a project. Too often the teacher's ego demands a finished film that rivals something from the local movie house. The focus should be on the student and what he does and not on the teacher and what he wants to show off to colleagues.

The still camera and pictures from magazines were the sources for different assignments. In talking about the theme of a story, the students took their cameras and produced photographs that showed a specific theme as thought up by the photographer. Some of the themes were the ever-popular "love", peace, distrust, well-being, happiness, brotherhood, and so on. The cameras were also used to make simple stories as well as a device to have the students show their environment and how they viewed it to their classmates. The latter idea supplanted the usual "write an autobiography in 100 words or less" assignment that drearily starts every school year.

Pictures from magazines provided the fodder for montages, or collages, that the kids made. One assignment was to cut out pictures to make a composite that best expressed the personality of the students--that is, what were the various facets of being, of likes and dislikes, etc. that could be shown through pictures and have the student shine through. The pictures were mounted on oaktag, signed by the student, and then hung on the walls.

Visual assignments DO turn on the kids and do provide learning experiences that can be exciting and rewarding. Take another look at what turned-on kids can turn out!

INDIVIDUALIZED INSTRUCTION AND THE LOGISTICS OF MEDIA MATERIALS

by Milton Van Vlack
Project Consultant for Curriculum Materials
Hartford, Connecticut

Hartford, Connecticut is a small city in terms of both its population of 162,000 and its land area of less than 19 square miles. However, it reflects the problems which beset most larger metropolitan areas. Although some 45,000 people have moved out of Hartford over past seven years, most of our recent arrivals are families with large numbers of children. Our present school population is just under 30,000. During each school year, an average of over 40% of our students transfer from one school to another within the city, and there are over 10,000 school-age children from families on welfare or approximately one-third of the city's public school enrollment scattered among 29 schools.

The learning styles of Hartford's many groups also have very different characteristics. These styles require strong changes in traditional teaching-learning techniques. Therefore, the Hartford Public Schools is developing a comprehensive self-directed learner approach to education that has never been tried in its entirety before. It presently consists of a plan that contains six major elements, all of which are interdependent. The components are:

(1) Instructional Management
(2) Information Processing
(3) Curriculum Development
(4) In-Service Education
(5) Facilities and Resources
(6) Organizational Structure

The city's tax base is almost entirely dependent upon real estate. Since it is also the state capitol and houses several other tax free institutions, it leaves only a small amount of property owners to carry over 80% of the tax burden at a 78 mill rate.

Thus, unfortunately, the public schools will not receive the large sources of financing required for such an undertaking. However, the administration still plans to move ahead under the following premise: - Take action with the existing personnel, instructional resources, and available budgets to launch system-wide individualized instructional programs. -

The thrust to get the plan off the ground has fallen largely into the area of curriculum development. This component has the most promise since it was actually initiated during the years of the landslide Federal and State funds 1964 through the summer of 1968, through various research and development projects. Although during this period of time, the curriculum projects were oriented around teacher centered guides and content organization, the hardware and software materials selected and purchased to implement them are acting as an excellent base for the individualizing process.

Without any assumed monies coming in, the curriculum office and Multi-media Service Center have had to forget for the present, any great push for the advanced technology that could more efficiently initiate the entire plan. Instead, the administration through the curriculum component, has turned its energies toward developing a basic learning vehicle oriented toward the needs and characteristics of the Hartford students. Consequently, Hartford Instructional Packets (HIP's) were first developed in the summer of 1968. They were modeled at first after the Learning Activity Packets used in the Nova Schools Fort Lauderdale, Florida.

Since the first HIP's were written, they have been subject to modification based largely upon response which was received from both students and teachers. Though the format has been continually revised, the feedback indicates that the basic HIP components should remain. These components are the objectives and the means by which they can be attained.

All original work is subject to quality control. The HIP's are written by teachers. They are prepared and designed for publication by two editors and an instructional media consultant, with graphics created by artists in the graphics office.

Basic to the success of any HIP, has been the availability of instructional material. Experience with the first HIP's resulted in a mandate for subsequent HIP's to limit citations of instructional media to that which was common to all schools and to suggest alternatives for the classroom teacher's reference.

The experience received from publishing scattered HIP's in several content areas has set new directions. In place of isolated HIP's, a continuous progress program scheduled for field testing in the spring of 1971 in levels 3-8 for mathematics, include 346 HIP's which have been vastly simplified. Concentrated efforts have been made to develop concepts inductively, proceeding from the concrete to varying levels of abstraction. This program will require that schools forego investing in new textbooks in order to purchase instructional media, manipulative materials, games, records, etc.

Another continuous progress program is underway in total communications arts for levels 3-6 involving the teaching of spelling, listening, speaking, handwriting, creative expression, grammar usage, and reading. The objectives aim at developing skills in independent word attack and mature reading. It also is scheduled for field testing in the spring of 1971.

In developing these continuous programs, committees have used a sequence of objectives to research materials that will provide many options for learning and develop all modalities in helping the learner to reach the objectives. In using this program, the sequence of objectives can be viewed as flexible and possibly grouped in phases or steps.

These programs will be physically completed by July 1971 and a 1,000 pupil pilot is planned for both in the fall of 1971.

NOW comes the real and practical problems: statistics and logistics. How can continuous progress programs designed for the individualization of instruction be extrapolated in relation to (1) physical production numbers, (2) packaging, (3) warehousing, and (4) distribution of what piece of material and how many for what period of time? This is a new experience for educators since they have almost always been concerned about a one-way street of instruction with a textbook for the center and 30 copies of each.

What are some of the alternatives to be considered?

1. Purchase commercially packaged programs now on the market for each school. - Perhaps, but for the most part, they are specific limited in shape, and/or prohibitive in cost to initiated and carry through on a system-wide basis without outside financial aid.
2. Sell the programs. - Publishers are seldom willing to buy with a "deal" to supply the system with the materials at no or a nominal cost upon demand.
3. OR - take on the physical task, but face the constraints of such an undertaking head on, and at least be able to say it is being tried within the framework of the "now" situation and plan for phasing in the technological improvement of the program as the appropriate equipment can be acquired.

The Hartford Public Schools have chosen the last alternative using traditional means of operation, but with a philosophy not employed in recent years in many systems:

1. Commit your personnel to extended efforts beyond routine demands. (This pertains only to Curriculum and Instructional Media Staffs)
2. Study your available personnel. Use their different capabilities to the fullest--extend not just their specialties and immediate roles.
3. Cooperate with one another instead of building smaller and smaller empires of specific responsibilities.
4. Stay with schedules for any phase of operations even if it means doing chores normally considered outside of "professional" roles.
5. Over produce and over plan in anticipation of for all known constraints.

6. Streamline procedure delays by going around known bureaucratic stumbling blocks (there is always a legal way if you study and understand the master system)!
7. Damn the physical problems--settle for <u>temporary</u> second best and keep heading for your goals.
8. Right or wrong--make a decision. It can be corrected or compromised. Indecision can only cause inexcusable and continuous delay.

This is a donkey philosophy and it is full of holes! But there is a precedent in an old adage:

> "Somebody said it couldn't be done, but he with a chuckle replied, well maybe it couldn't, but he wouldn't be one to say so until he tried. So he started right in with a bit of a grin, and on his face it be worried he hide it... Somebody said it couldn't be done, but <u>somehow</u> he did it!"

Remember - It's the kids that really count in this world--not us! Act now or we will pay later!!!! - Individualize.

INSCHOOL PRODUCTION OF FILMS TO SOLVE CLASSROOM PROBLEMS

by Dr. Ernest A. Baum
Armonk, New York

The presence of several Super 8mm. Technicolor loop-film projectors inspired a project in which teachers and pupils were involved in the production of films to attack instructional problems in a variety of curriculum areas on levels ranging from the primary to the High School.

Teachers found the project manageable because of the limitations of scope and running time imposed by the loop-film format. The simplification of camera technique removed one of the chief deterrents to film production thus making it possible for the teachers and pupils to concentrate on the essentials of visualizing ideas.

More important than the films produced was the effect of being involved in the project on the teachers who participated. By designing their own films these teachers began to realize how effective this medium can be in solving instructional problems.

MEDIA MANAGEMENT:

A PROCESS APPROACH TO INSTRUCTIONAL DEVELOPMENT

by Joseph W. Gilkey
Media Supervisor
Smithtown Central School District #1
St. James, New York

For many this is the age of Aquarius and it might also be accurate to refer to contemporary times as the age of media. It is a time when our senses are bombarded daily and hourly with more media of more kinds than any other time in the history of mankind. From "Switched on Bach" to Burt Bacharach we live in a turned on, tuned in world. And yet our youth sing of the "Sounds of Silence".

Such a time catapults a Canadian literature professor into world prominence as the "oracle of the electronic age", and educators scamper to solve educational problems by putting more technology of more kinds in more classrooms. It is a time when educational programs are judged by "how much" and "how many". How many dollars are expended for hardware? How much material is available? How much space is allocated for the production and use of the newer media? How many people staff the media department?

NDEA and ESEA have provided the financial resources for many school districts to obtain media resources, hardware, personnel, and even regional centers to encourage the use of technology. For many the millenium has arrived. Like the medicine man of old we have a cure-all - a panacea. Media becomes multi-media and multi-media means a DeMille-type spectacular, shown in multi-screen facilities, with students responding to the show by pushing buttons. The whole situation takes on the air of the circus!

Research falls short of establishing the educational worth of the cast of characters. When achievement is used as the yardstick for measuring successful programs, no significant difference is found between and among the various media and learning. The sizzle has been sold -- not the steak! For the disillusioned technology has been put into storage to collect dust. For many of us, however, there is the belief that all of the newer media have a contribution to make to education, provided they are not force-fed, oversold, and prematurely applied by the learning corporations, and by well-meaning leaders in the field. Media must be managed for optimum learning outcomes.

One of the directions being pursued is the so-called systems approach to instructional planning. Just what constitutes an instructional system or just how we might define the term "instructional system" is a matter of your point of view and there are as many points of view as there are systems theorists. All systems do, however, seem to share some common components and all seem to exist for the same purpose, which is to structure the sequence and materials of instruction into systematic instructional packages.

A common component of instructional systems is the reliance on behavioral objectives. Using these objectives, and a technique generally known as task analysis, the systems designer sequences the instructional content and chooses paths to the objectives. Materials are then produced, or purchased, to support these paths, thereby shaping the learner's behavior until he manifests the behavior specified by the objectives. These materials are then tried out on individual students, revised if they do not work and tried again. This revise -- tryout cycle, or feedback, continues until the designer feels he should obtain a field test performance. If the field test meets specified criteria, the system is ready to be used on a larger scale.

Unfortunately, instructional systems so planned may overlook many vastly important educational issues. Frequently such planning is done by systems designers, thereby ignoring the teacher, but she is important and can do more to make instruction work than any other single component. Systems so designed view the child as a stimulus-response organism stimulated to acquire a set of behaviors. Anthony Oettinger has described such systems as, "mass production to narrow specifications with rigid quality control". Frequently it is this characteristic that causes instructional systems to suffer from a rigidity of structure containing only one right answer for a question, and only one route to that answer. Little opportunity is provided for developing values, self-confidence and the abilities to reason and analyze. It is frequently argued that the systems approach increases the schools efficiency, but for most critics and a large number of students "Today's most pressing educational problem is not how to increase the efficiency of the schools; it is how to create a humane society through humane schools." Listen to this youngster's plea in this quotation from a letter

written to the editor of her hometown newspaper:

> That is why our whole system of education must be overhauled. We start out with the right idea in kindergarten by teaching children how to coexist without killing each other. Then we assume the job is done and from age six the child is on his own. He will continue to encounter disputes over building blocks or dolls throughout his life and we must make sure he knows how to deal with them in all their various forms.

Marshall McLuhan has emphasized that media change men's sense ratios and when these ratios change - men change. Mesthene similarly reasons, "Our technologies today are so powerful, so prevalent, so deliberately fostered, and so prominent in the awareness of people that they not only bring about changes in the physical world, but also in our institutions, attitudes and expectations, values, goals, and in our very conceptions of the meaning of existence." "Decision-making related to technology cannot any longer - as it once could - take place without deliberate consideration of these wider ramifications of technology." Systems frequently rely on narrowly defined objectives and specifications as the decision-making basis for incorporating technology into instruction. As such, the approach may well compound what critics feel is most wrong with American education; its failure to develop sensitive, autonomous, thinking, humane individuals.

How then should technology find its way into the classroom?

How might systematic but humane instruction be developed?

Consider what we might call the "process approach to media management" as a possible answer to these questions. This approach is based on the following assumptions:

a. Teachers learn from each other and reach peaks of creativity through joint planning efforts. Instructional planning must be undertaken by groups of teachers working as teams.

b. Instructional planning must be lead by a subject matter expert. This leader must also be very knowledgeable in the field of group dynamics.

c. A media specialist must be included as a team member.

In the process approach to planning instruction a team composed as described meets to plan a unit of instruction. The use of the word unit is no accident. This particular part of the larger instructional program is a complete group of lessons; capable of standing on its own; having an identity of its own; possessing a wholeness - a unity, but nonetheless a segment of a larger overall program.

In some instances the planning may begin with specific objectives, while in other instances with only the very broad general goals of instruction in a given subject area. In either case, the group should agree on the goals or objectives as they start their work.

As the team begins working some of the team members may become hostile to the task as it unravels. These members may remain apart from the group or they may offer critical comments on the contributions of other members. Other members receive reinforcement from participating with the team. They are open to ideas from others and they make contributions to move the group toward accomplishment of the task.

The specific task of the team is to develop, and commit to paper, the day by day activities that will take place in classrooms. As the group begins suggesting activities the questions come. Will it work? Should we do that first? Will that make them want to read the book? What do we want kids to do as a result of seeing this film? Slowly but surely, as members of the group show agreement, reveal opinions, become antagonistic, reject ideas, and request opinions, they come to understand, through these interactions, what it is they are building. Consensus as to what works and what does not develop from the interactions. The requirement that the activities so planned and developed be committed to paper is an important part of the process for it forces the group to structure the consensus, thereby acting as a vehicle to bring about group understanding.

No set of narrow specifications dictate the media used in any given activity. The media specialist has the same "input" into the team as the other members have. He questions, he suggests, and using his repertoire of media-materials makes his contribution to the group process. The ultimate decision as to whether a media activity becomes a part of the unit or

not comes from group consensus, as they consider the media, the children, the effect of the activity on children, the consistency between the media activity and the goals of the instruction, and the relationship of the media activity to other activities planned for in the unit. The media specialist must be prepared to wrestle with such questions and be capable of exerting the leadership facilitating group probing into these areas.

What emerges is a unit planned and developed by teachers, sensitive to children, intellectually honest, and mediated for educational outcomes.

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The concepts contained in this paper are difficult to grasp as the result of a telling and listening experience. To fully grasp the dynamics of the situation, to truly understand you must have direct experience with the process. That not being possible within the time constraints of the convocation we will provide you with various experiences of two types. The first is attached to this paper and is an article which appeared in Audiovisual Instruction. This article contains a block diagram of a process planned unit. All activities and media are shown. The second experience is an integral part of the presentation. We will play excerpts from audio tapes recorded during the planning of a fourth grade language arts unit. These tapes were made during the 1969-70 school year.

THE INSTRUCTIONAL UNIT--
A SYSTEMS APPROACH TO MULTIMEDIA *

by
Paul Benyei and Joseph Gilkey

"If we want kids to understand handicapped people we should handicap them."

"Let's tie their hands behind their backs."

"But Hideyo had only one crippled hand. Let's tie only one hand and let them see what it would be like to eat their lunch and carry their books around all day."

"That's not realistic. With everyone's hands tied they would not be ridiculed for their handicap. It will become a joke. There must be a better way."

"Is there some form of medium that will give us the emotional impact we need?"

"I know of a film that deals with a blind boy of Hideyo's age. Suppose we get the film and see if it does what we want it to do."

What you have just read is a part of the dialog in a team meeting of educators planning a language arts instructional unit for use in sixth grade. This team is composed of teachers, a language arts supervisor, and a media supervisor.

They meet regularly to plan what will happen in the classrooms. They are building the language arts program together. Through cooperative planning they exchange ideas; form opinions; exchange information about books, materials, and teaching methods - they capitalize on the best of these. Every school district and every committee feels they are doing just this. The unique contribution of this particular team is that after 10 one-hour meetings they will have created a multimedia teaching unit. The meetings, their organization and dynamics, the teaching unit, and the effects of the unit on students constitute an instructional system.

With language arts as a model, the creation of a unit begins when leadership personnel, through consultation with teachers, librarians, children, and their own knowledge of the discipline, begin a search for printed material. They know they must find books, short stories, newspaper articles, and paperbacks that will not only be exciting, enjoyable, and relevant to students but will stimulate language response for them.

The leaders of the team then organize a team to work with materials that meet these criteria. The leaders are a subject matter specialist who knows the discipline and can relate it to the overall K-12 program, a media specialist who knows the relationship of media to

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*From Audiovisual Instruction, January 1970.

learning and is acquainted with a wide variety of media materials, and an excellent teacher who is skilled in working with other teachers and can keep the focus on children. The remainder of the team is composed of teachers who have expressed an interest in planning and working together and are willing to engage in a search for better ways to teach.

The team, confronted with the materials that have been found, is asked, "How can we best use this pre-selected material in our classrooms to teach language arts?" The team is also asked to be specific in answering this question by spelling out the day-by-day activities in the classroom. This is the most difficult and crucial task to be put before them and separates this team's work from most school committee work. What is expected is a detailed instructional unit that will take children step-by-step through reading,discussion, interviews, role playing, dramatization, and writing in order to explore a problem, an area of concern, or a relevant question. What results is an intense involvement with language in order to explore a concern generated by this material. When serious concern has been generated in students they will read, they will talk, they will write, and they will engage in other language activities.

Thus, with the learning specification so clearly delineated, the selection and use of media becomes an integral and supportive part of the learning to take place.

For example, the dialog at the beginning reveals that the team is looking for a way to get students to empathize with a handicapped person. That specification dictates the task of the media and the media supervisor knows that the film Kevin fits this specification. Once the team has accepted the use of Kevin, and has asked children to write a short paper about Kevin's possible future, then this film becomes an integral part of the unit -- a part of the system -- and the unit cannot be taught without the use of this medium.

The model unit we are using is based on the book Taller Than Bandai Mountain by Dan D'Amelio. This book was chosen by leadership personnel as a literary work which would raise concerns in children about handicapped people and help them to understand how a culture influences an individual's behavior.

In abbreviated form a view of this unit should be helpful in showing how all the planning, sequence, materials, activities, teaching, and evaluation of the unit fit together to form a system. Such an abbreviated schematic form appears on the following two pages.

An analysis of the schematic should reveal the interdependence of all the activities and materials contained in the unit. Since each is an integral part of the system and all are interdependent, students could not be expected to achieve the skills and understandings if any activity or material is omitted.

AN INSTRUCTIONAL SYSTEM

First Day:

1. Show the film Kevin. Ask the students "What problems does Kevin have? How does he view the world?"

2. Students are now asked to write a one-half page paper about what they see to be Kevin's future and why.

Following Day:

1. Each child should read his sentence aloud. Then each child should select one situation from the book and write briefly about how he might have acted.

2. The whole class can now search for places in the story where Hideyo takes a step toward determining his fate.

3. The class should now read and discuss Frost's poem "The Road Not Taken."

Second Day:

1. Show a series of slides of the following people: Mickey Mantle, Joe Nameth, John Kennedy, Steinmetz, Lautrec,Babe Diedrickson, Jackie Robinson. Ask, "What do all of these people have in common? Are their handicaps as serious as Kevin's?"

2. Show slides of blind, successful people: Ray Charles, Helen Keller. "Can people overcome a handicap as serious as blindness? Are there really all kinds of handicaps or shortcomings that most of us have?"

3. Students can discuss various types of handicaps: shyness, lack of money, lack of ambition, lack of athletic ability.

4. Students are now asked to write a one-page paper on their main aspirations for the future and a shortcoming that might block its attainment.

Following Day:

1. The class should now look at the Canadian farm family section of the film plus the anthropologist Margaret Mead's discussion of what these behaviors indicate about the contrasting Japanese and American ways of family life.

2. Discuss: "What do you feel to be the main differences between the Japanese and American children?"

3. "In the book how does Noguchi show docility and acceptance as a boy? How does his self motivation begin?"

Assignment:

Find one example of Hideyo's acceptance of his fate. Tell about this situation in one sentence.

Third and Fourth Days:

Class reading of Taller Than Bandai Mountain.

Fifth Day:

1. After most students have read the book, the class should discuss, "What people were important in Hideyo's life?"

2. The class can list these characters on the board and discuss how each one influenced him.

3. The students can now discuss how people have influenced their own lives: parents, teachers, peers, relatives. The teacher might begin the discussion by describing an incident in which a person influenced him.

   Students would now be encouraged to recount incidents in their lives in which other people were an important influence.

Sixth Day:

Contrasting Cultures:

1. The teacher asks students to turn to page 59 and together the class reads this chapter concerning how the American missionary looked strange and was considered a barbarian by the Japanese. The teacher can ask, "How could Noguchi consider the Japanese way of life to be superior to an American's even though he is a poverty stricken farmer? Do the Japanese have ways different from ours of raising children, treating women, behaving at home?"

2. The class is now shown the Japanese family section of the film Four Families. The class is now grouped with each group creating an impromptu skit about what happens in an American family.

   (1) at suppertime
   (2) at after supper playtime
   (3) at bath time
   (4) at bed time

3. The class should now discuss, "How was your behavior in these skits different from the children's behavior in the Japanese film?"

Culminating Activity:

1. The class should now be divided into groups and each group will pick one crucial episode in Hideyo's life to write out as a play or story. After each group has written a careful narrative or dialog, it will pick out and photograph as slides six moments that will dramatically illustrate the episode.

2. The students need not be told what message about Hideyo their presentation should give. They might be asked, "What is it about the life of this person that we want to show?"

   The teacher might help a slow class by asking. "Who are the important people influencing Hideyo? Did he change internally as he grew up physically?"

3. With these slides and the written narration, each group can make a presentation to the whole class.

   After the individual groups have made their presentations, the whole class can work together to prepare a unified presentation that combines each group's written work and slides.

   This final version of the narrative and dialog may be taped and any needed additional slides made. Care should be taken not to "over produce" since this is an activity, not a production.

Evaluation:

The degree of understanding the class presentation shows of Hideyo's perseverance and self motivation can be considered an evaluation of some of the objectives of this teaching unit.

Behavioral Evaluation:

1. Show the film Kevin again.

2. If you were to write a letter to Kevin, how would you respond to his last statement?

3. The class can now compare the tone of these letters to the written statements about Kevin's future written at the beginning of the unit. If there have been changes in attitude about being handicapped, the letters should show it.

General Objectives:

1. To gain insights into the problems of the handicapped.

2. To recognize the variety of handicaps and how people overcome them.

3. To compare contrasting cultures.

4. To understand how a culture influences an individual's behavior.

Language Arts Objectives:

1. To condense the heart of an incident into one clear, concise sentence.

2. To express aspects of American family's life in impromptu skits.

3. To write narrative episodes.

4. To learn to select incidents in a narrative that portray major themes.

5. To learn to work together to select crucial visual points in the dramatization of a narrative. Photographed, these crucial points should help to portray major ideas.

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HIGHLIGHTS OF THE 1969-70 TECHNOLOGY GRANT PROGRAM

by Warren R. French, Associate
Bureau of Classroom Communications
New York State Education Department
Albany, New York 12224

EDUCATIONAL TECHNOLOGY GRANTS 1970-71

APPLICATIONS FOR FUNDS

STATE FUNDS

TOTAL FUNDS*

FUNDED

STATE FUNDS

TOTAL FUNDS*

* MINIMUM 50 - 50 MATCHING FUNDS

100

State Grants to Demonstrate Technology in the Schools were awarded in late November, 1967 and again in July, 1968, July, 1969 and July, 1970.

In 1967, selection was made from 46 applicants. The total requested from the State was $282,687.50. Of these requests, there were approximately 30 representing $158,581.00 in requests eligible for consideration. The ineligible ones involved possible funding under State funding or Federal funds. Fifteen projects were funded, for a total of $75,000 in State funds. Many projects were matched with more than an equal amount for a total of $416,925.00 of additional Educational Technology.

In 1968, selection was made from 42 applicants. The total amount of money requested from the State was $227,865.00. Approximately 37 projects were eligible for consideration. This represented a value of $409,010 worth of Educational Technology. Fifteen projects were funded for a total of $75,000 in State funds. Many projects were matched with more than an equal amount for a total of $207,070.00 additional Educational Technology.

In 1969, selection was made from 34 applicants representing $175,000.00 worth of Educational Technology. Thirteen projects were funded for a total of $75,000 in State funds. Many projects were more than matched for a total of at least $150,000.

In 1970, selection was made from 40 applicants representing $246,000 in State funds. Fourteen projects were funded for a total of $170,000(includes $75,000 State funds).

Over three years 43 projects were funded. Thirty-six are still operating.

Mr. Raymond J. Mihan
Department Chairman
Baldwin Harbor Jr. High School
Schreiber Place
Baldwin, New York 11510

"Social Studies Teaching Packages"

The purposes of the Grant were to implement the development of the Teaching Packages by the 9th Grade Curriculum Team and to provide the means to prepare additional materials for the Teaching Packages.

Each team classroom is a well equipped learning laboratory. In addition to the usual social studies classroom materials (maps, charts, displays) each has a cassette tape recorder and listening unit, an overhead projector, a filmstrip projector, and a slide projector. The team shares a 16mm sound projector and a super eight projector.

Preparation of special materials is possible with a slide maker, a transparency maker, and cassette tape recorder. The Middle East Teaching Package was completed and preparations from the package on Japan and another on Black America begun.

A special budget allotment will be made for $1,000 to purchase consumable supplies.

Priorities will be established for revisions and further new developments. The "Packages" are resource packets and some attention must be directed to creating units based on inquiry methods.

Further development of testing and evaluation procedures is another important aspect of the Team's work for 1969-70. The essay test, solely in use at present, will be evaluated --- and if required will be modified and re-structured to meet our aims...that students gain an understanding of Social Studies concepts and develop skills---analytical thinking, research techniques, expository writing.

We have achieved a degree of satisfaction. The development of the "Teaching Packages" had a specific goal...to bring together all the resources within our school in the African-Asian Studies. That goal has been achieved -- thus a degree of satisfaction. More importantly, students are responding postively to the multi-media; to the "new" approach; to the new curriculum. Their enthusiasm for learning has brought a large "degree of satisfaction" -- for student interest in learning is the name of the game. We are satisfied that we are moving in the right direction; that our high degree of interest will yield a higher "degree of satisfaction".

Mr. Thomas Alesse, Director
Sweet Home Senior High School
1901 Sweet Home Road
Buffalo, New York 14221
716 634-4700 Ext. 12

"Educational Technology Laboratory"

Each morning the three teachers who were involved in the project, met in the Educational Technology Laboratory to plan and prepare for the teaching of the Crucial Issues course being offered this year. The course is a team teaching situation with a large and small group mode. Each student was a member of a study committee charged with an assignment to study and present before the large group, a selected current and crucial issue.

The project director determined what the students selected as a crucial issue, and previewed soft ware material. Sixteen millimeter movies were not considered, as we had access to the Harkness Center Film Library service. Our attention was focused on the new synchronized sound filmstrips. A large amount of budget money was used for this type of material.

We found that no matter what we might consider a current crucial issue, we could never buy material for all of the topics that might be presented. This suggested the need for some kind of student production facility. Previously, we had provided a overhead transparency production facility for teachers. This kind of presentation material appeared to be cumbersome and expensive for student use. 35 millimeter slide equipment, super eight movie equipment, and audio tape equipment was made available to students in certain courses.

The nature of the Crucial Issues course determined the facilities to be included in the Educational Technology Laboratory. We needed vast amounts of soft ware that presented current social economic problems. We needed areas for the preview and individual study of these materials. We needed facilities for the low cost production of material that was not currently accessible by any other means. We needed presentation equipment and we needed storage and operational facilities.

We had planned to make the Educational Technology Lab facilities available to students from other classes. However, the Crucial Issues students seemed to dominate the scene, and the mornings in particular found our study carrels and their sound filmstrip projectors very much in use.

We will begin in the fall to service the Crucial Issues classes and teachers and students from other classes and study halls, interested in using our facilities for preview and/or individual study of the materials available, or to prepare their own classroom presentations.

Mr. Joseph Plesur
Erie BOCES #1
99 Aero Drive
Buffalo, New York 14225 716: 634-6800

Mr. Paul Neff
Nassau BOCES
125 Jericho Turnpike
Jericho, New York 11753
516 997-8700

Mr. Charles Foster
Niskayuna High School
Balltown Road
Schenectady. New York 12309
518 393-6111

Mr. Edward Moy
Tompkins, Seneca, Tioga BOCES
Tompkins County Airport
Ithaca, New York 14850
607 273-6248

Mr. Edwin Peterson
Suffolk BOCES #1
Riverhead, New York 11901
516 727-3618

Regional Tapes for Teaching Centers

The Tapes for Teaching service of the Department has been de-centralized to five regions of the State. Generally, these operate through the BOCES serving each school. Catalogs are available from the Regional serving each area of the State at $2.00 each.

Educational Communications
U.F.S.D. #4
166 Laurel Road
East Northport, New York 11731
516 261-9000

"Film Making - A Creative Classroom Tool"

Thirty students directly involved - they in turn involved students at other schools or departments.

One teacher directly involved: Mr. Dave Jackier, Northport High School. Northport High School, 1800 student population. Classroom situation with darkroom. Supplies consumed - films, recording tape, inks. Continuation of supplies places an additional burden upon our burgeoning budget, but this coming year it has been accomplished.

A major accomplishment has been to provide students with both the technical knowledge and the stimulus to both create and communicate through the media of film. Some of the work, demonstrated throughout the district, has been well received with great critical acclaim. Perhaps the most rewarding outcome, as far as the district is concerned, has been the wide spread stimulation that permeated every school or department in the district. Not that every grade level, was involved but it proved most interesting the amount of interest in film work stirred up through our set-up. It also re-inforced our conclusions that older students relate extremely well with younger students and can be very helpful in our varied learning situations.

This initial impetus also enabled the district wide coordinator, to initiate and extend the use of film and visuals as a means of communication. We added many interesting, creative-type films to our district film library. This was instrumental in providing teachers with more tools and materials.

One of our main objectives, for next year, will be to expand our activities in the area of "Visuals are a Language". We have planted some seeds throughout the district.

The project was described at various faculty meetings throughout the year and some of the student projects were shown during an Educational Technology Week, held at one of our schools for district staff.

Mr. Edwin Sorensen, Director
Educational Communications
U.F.S.D. #4
166 Laurel Road
East Northport, New York 11731
516 261-9000

"A Technological Approach to Teaching Listening Skills"

Students involved - approximately 90 primary.

Schools involved - Larkfield Elementary School, primary and some intermediate grades.

Reading Teacher involved at Bellerose Avenue and Ocean Avenue Elementary Schools. Supplies consumed: a great many language master cards and audio tapes/prepared. These are consumed in the sense that they are revised from time to time.

The project was publicized at faculty meetings at the various schools and a demonstration during Educational Technology Week in January at the Larkfield Elementary School.

We were quite enthusiastic about our accomplishments at the end of the first year of our project. Programs could be devised by professionals for varied A-V equipment, and carried out by para-professionals to improve learning skills. We were involved primarily with listening skills and made extensive use of the "Language Master", but feel that similar skills may be affected in a similar manner.

From this auspicious beginning, the program has been extended to other areas and grade levels, especially in one building. At the Larkfield School, listening activities of the type prepared for the project, are now being used in all the primary grades with similar programs being tried in the intermediate grades. An additional ten language masters are on order with accompanying prepared and raw materials to be used in conjuction with it.

Our teacher-aide utilization has been extended beyond routine "babysitting" tasks to really be an adjunct to the teaching program.

Lake George Central School
Lake George, New York 12845
518 668-5452

"Student Designed and Produced Instructional Materials"

60 students were directly involved with producing slide tape instructional materials. All students in social studies were shown the student productions and, in some cases, tests were given regarding the content of the sound slide presentations. There are approximately 550 students enrolled in Lake George Junior-Senior High School.

Four sound slide sets were made. These projects utilized selected background music, were quite well organized. Several students worked in teams to research the chosen topics, find and select suitable pictures to photograph and to prepare the accompanying audio tapes. Two sets in transparency format were completed by junior high school students.

The project's success showed in several ways: students developed research skills, script writing skills, and skills in selecting photos to support statements. An elective in photography will be offered during the 1970-71 school year. In addition, a definite production schedule will be developed and only one project at a time will be undertaken. The project will be expanded to other secondary disciplines in the hope that other teachers will modify their instructional techniques.

The most valuable rewards from the project came in the form of its spin-off. Teachers at the elementary school for the first time began using locally produced slides for instruction. A kindergarten teacher produced a slide record of her children collecting maple sap, boiling it into syrup and eating the home-made nectar on pancakes. A student teacher produced twenty 11 x 14 inch study prints of field trips to a poultry farm and dairy farm. The fourth grade, under another student teachers' direction, produced a slide tableau of the Life of Lincoln.

Mrs. Marie Sterling, Director
Lindenhurst Jr. High School
350 South Wellwood Avenue
Lindenhurst, New York 11757
516 884-8400

"Dial-Access Facilities In J.H.S. Multi-Media Center"

The multi-media center of 8800 square feet includes an audiovisual room of 225 square feet which houses the master control unit. The center also contains 48 "wet" study carrels, eight of which are connected to the dial access system. There are 1780 students and 103 teachers involved.

Installation of the dial-access system was not completed until just a few weeks before the close of the 1968-69 school year and the dubber will not be installed until August, so that only tapes already on hand in the Media center were used, and these mainly for demonstration purposes.

The project was in use such a short while that no evaluation was made.

Because the dial-access was installed so late in the school year, it was difficult for any major accomplishments to be made. However, those students and teachers to whom demonstrations were given were delighted with the programs heard and greatly excited about the prospects for expanded use of the facilities in 1969-70.

In addition to the use of commercial tapes, we hope to work with the various departments of instruction in the Junior High School to tape exemplary lessons or parts of lessons that will be used to provide an individualized program of remedial and independent study and to make available to the auditor any mimeographed exercise sheets, diagrams, charts, or pictures that may be necessary.

One of the dial-access termination points is connected to the school intercom so that programs can be channeled into any classroom in the school. In addition, one termination point is at the earth-in-space globe to provide recorded lessons for the planetarium facility.

Time in the carrel is 100% study time not diluted by tape manipulation or machine operation. The dialed code number brings the program to the student. The audiotape may be a musical selection, language readings, drill, dramatization, poetic reading or a speech.

The system has enabled the school to provide for individual instruction enrichment reinforcement, remediation and independent research.

Mr. James R. Cross
Assistant Superintendent
Cattaraugus County BOCES
124 Main Street
Little Valley, New York 14755
716 938-3441

"Multimedia Kits for Student Use"

The Technology grant provided for a two part program.

Construction of four Student Self Expression Kits.

These kits were completed and in use by January 6, 1969. They were in continuous circulation until the end of the school year. Approximately 350 students were directly involved in using the equipment in the kits. Thirty teachers used the kits, either in the classroom with students, to produce their own instructional materials, or in conjunction with inservice training programs at their schools.

Purchase of instructional materials for Multimedia Resource Kits.

Multimedia Resource Kits are used by all pupils and teachers of the BOCES District. In the school year 1968-69, 1742 kits were booked to schools, as compared to 886 in the school year 1967-68. One hundred new multimedia kits have been developed, to be ready for circulation in September, 1969, This brings our kit library up to approximately 300 kits.

These project activities are carried out in the BOCES Multimedia Project Office, 201 W. State Street, Olean, New York 14760. The facilities encompass approximately 2400 square feet of space.

Consumable materials, films, film processing, tape cassettes, etc, amounted to approximately $250.00. This expenditure provided an initial supply of these materials. Participating schools reimburse the project for those items used.

Results from the first part of the project have been highly satisfactory. Both teachers and students participating in the use of the Self Expression Kits showed tremendous enthusiasm, regretting only that they were not able to use the kits for a longer period of time. Some extra items of equipment such as film editors, splicers, and projectors were purchased to lend to schools after the kit itself had been returned.

The success of the second part of the project can well be illustrated by the fact that this office already has more requests for Multimedia kits for school year 1969-70 than were booked in the entire first year of the project (1966-67).

William Floyd Schools
240 Mastic Beach Road
Mastic Beach, New York 11951
516 281-3020

"Reading Laboratory"

Twenty individual carrels were installed and equipped with controlled readers and tachistoscopes. Book and non book visual and auditory materials are available for the overall reading-learning laboratory. The laboratory accomodates 160 students daily for individualized controlled developmental reading program.

Some materials were made locally for the controlled readers. Classes other than reading are given access to the laboratory for instruction. In addition, individuals may use the facilities for personal development in reading. The Adult Education program also is using the reading laboratory.

Mr. Edward R. Stevens
Administrative Offices
1691 Meadowbrook Road
Merrick, New York 11566
516 826-2200 Ext. 220

"Occupational Skills for the Indifferent Learner"

Our project was based on a belief in the positive contributions educational technology can make to the learning process. The three teachers in this program have imparted favorable

experiences and a high level of student interest to the program. In their subjective analysis of the past year, they report better holding power and increased learning resulting from the program's ability to present a realistic school experience. That none of these potential dropouts did leave the program, supports this subjective evaluation. An analysis of contributory factors points to media as an important aspect in this program.

Specifically, seventy-five students and three teachers had direct access to an equipment pool and media collection. The equipment was stored in their own storage area. The media collection was housed in the teacher's office space. Both areas are physically linked with the teaching area. This ready access to equipment and materials was the key to its successful use.

The program had its beginning problems, such as: backordered equipment, and materials, cataloging of materials student and teacher training, space allocation and use. However, these difficulties were resolved and the program began to operate as anticipated.

Our district plans to continue and expand this program. All believe the premise was sound and the results favorable.

In 1969-70 the program was expanded to use the facility six periods per day.

Mr. Fred Gale
Director of Educational Communications
North Syracuse Central Schools
200 Lawrence Road
North Syracuse, New York 13212
315 454-9237

"Effective Instruction Through Independent Study"

This program directly influenced one hundred and fifty students at the senior high level. The facilities used to accommodate this program include a Communications Laboratory which consists of information retrieval, production and small and large group student areas for study. Copying materials, art supplies and other consumable items were made available to students in this program. Such resources will continue.

Students were provided materials which were flexible as to their needs as well as in performance objectives. The visual and "doing" activities allowed the student to become totally involved with the content.

Teachers acquired new techniques and skills that will enable them to better design learning strategies. Although there were four teachers directly involved in this project, inservice programs for teachers in other instructional areas were begun.

In similar fashion, administrators received instruction in areas of management that would facilitate the operation of this program. Some of the areas considered were Perting techniques, systems design, and flow charting. The acquisition of these skills were relevant to the goals of this program as well as improving the total instructional program.

Mr. Louis Brown
Plainview Central School
Plainview, New York 11803
516 938-5400 Ext. 301

"Nongraded Approach to Instruction Through Technology"

Utilizing an innovative technological breakthrough affecting aural perception, the project covers K-12 in a variety of subject and developmental areas. The system involves a method of recorded speech and sound compression and decompression which can be controlled precisely at all times without altering the original intent or content of the message. This controlled flexibility will enable teachers to meet the varying degrees of pupil readiness for specific educational tasks at any given time; to advance with the pupils at their own rates to various goals and levels of work; and to qualitatively and quantitatively measure results or developmental status at any given time.

The ingeniousness of the device may be more readily apparent when one learns that it can slow down or speed up recorded music without changing the pitch, and conversely, that it can transpose music from any key to any other key, while maintaining the original performance speed.

Because the equipment is complex in nature, custom designed, imported from abroad, and must be set up with electronically matched components, the project did not become fully operational until late in the school year. Nevertheless, it has been demonstrated to teachers, department chairmen, administrators, pupils, parents and visitors over the past several months.

Two control rooms have been designed and set up specifically for the project and its utilization in the schools on a full scale basis.

The areas selected for examination and demonstration in Plainview include foreign language study, typing and shorthand study, speech analysis and correction, dramatics, improvement of reading skills, subject matter review, the utilization of decompressed musical accompaniments, and analysis of aural scientific phenomena. Other areas will be included for examination in the future.

Henry Gadjo
Director Educational Media
Sodus Central School
Mill Street
Sodus, New York 14551
315 483-2451

"Learning Laboratory For Independent Study"

The Sodus Central School has derived a philosophy "to transmit to each student a means of thinking effectively, communicating effectively, making relevant judgements, and discriminate among values. The staff strives to develop self initiative, creativity, and self discipline within each student."

To arrive at values such as these, there must be a commitment on the part of the students and the staff. This commitment is being carried out by a "concerted effort toward allowing for independent work on the part of each student to the fullest realization of his educational goals."

Part of this commitment was aided by the New York State Educational Technology grant in acquiring equipment. Room was designated in a large High School study hall by the Sodus administrtion. A partition was built to divide the room, adequate electrical wiring and fixtures were installed, then thirty carrels and a table were added. This gave us the "Learning Laboratory" environment desired for continuing independent studies. Next, tape recorders, record players, filmstrip projectors and viewers, microfilm readers, and shelves for reference books were provided for student and teacher use.

Independent study work was not new at Sodus High School but was formalized by the new facilities. Independent study had been part of one social studies course and two science courses. The middle of the 1968-69 school year saw this spread to six English teachers, four more social studies teachers, two additional science teachers, two mathematics teachers and one language teacher. District curriculum coordinators felt the need for more independent work on the part of the students and guided their respective faculty and students along this path.

The school year 1969-70 not only will see independent work continued in many classes but the seniors now have a chance to elect independent work as one of their courses in both English and Social Studies.

Joseph V. De Capio
Director
Westhill Central School District
4501 Onondaga Boulevard
Syracuse, New York 13219
315 478-0930 Ext. 33

Westhill School System initiate an interdisciplinary approach through team teaching for the entire seventh grade of two-hundred students. Integral with this approach was the development of a study center specifically for use by these students. The center consisted of fifteen "wet" carrels and two listening centers. Carrels were equipped with filmstrip/slide projectors, cassette tape recorders and 8mm loop projectors. Commercially available programed materials were also utilized.

Students developed their own behavioral objectives and signed contracts to develop instructional units to be used both in the classroom and in the study center. Typical materials produced were: 8mm movies, color slides, black and white pictures, audio tapes, mounted pictures, and cartoons.

The media director was an integral member of the interdisciplinary team, which utilized the strategy of differentiated staff. A master teacher, associate teachers and teacher aids were involved in all phases on the selection, evaluation, and production of instructional materials used in the classroom. The basic approach of the team was multi-media solution to instructional problems.

The program was constantly monitored and evaluated during the year, by the school curriculum coordinator. The resultant data indicated such astounding success that the program will be expanded to include the eighth grade for the 1970-71 school year.

STATE GRANTS TO DEMONSTRATE EDUCATIONAL TECHNOLOGY IN THE SCHOOLS

State Grants to Demonstrate Educational Technology in the Schools were awarded in July, 1970.

There were 40 proposals submitted covering $632,825 worth of Educational Technology. $377,148 of this would be local funding. To fund this we would need $245, 677.

14 projects were funded with $75,000 State Grants. These were matched with $110,710 at the local level.

Fiscal year ending March 31, 1971

Mr. Roy Meuchner Chatham Central School Chatham, N.Y. 12037 518 392-4181	An Innovative Approach to Health Education
Mr. Anthony Kauth Elmont UFSD 16 Elmont, New York 11003 516 354-4917	A Multi Sensory Approach for the Improvement of Reading
Mr. George VanKirk Horseheads Central Schools Sing Sing Road Horseheads, N.Y. 14845 607 739-5601	Personalized Learning Through Loaning Audio Visual Materials
Mr. Edward Moy Ithaca City Schools N. Albany and W. Court Sts. Ithaca, N.Y. 14850 607 274-2203	Independent Elementary School Science Instruction
Mr. Woodrow W. Snyder Jamesville-DeWitt High School Edinger Drive DeWitt, New York 13214 315 446-0233	More Effective Criticism of Writing Through Audio Critique
Mr. Norman Bouvier Malone Central School District Harison Admin. Building College Ave. Malone, New York 12953	Each Teach One Reading. Computerized with visual display
Mr. William Neiger Shaker High School Watervliet Shaker Road Latham, N.Y. 12110 518 785-5511 Ext. 57	Meeting Needs of Students With Reading Deficiencies
Miss Laura Wedge Norwich City Schools Midland Drive Norwich, New York 13815 607 334-6687	Individualized Instruction for Slow Learners Via Technology

Mr. Arthur Cowdrey, Jr. Rochester City Schools 410 Alexander Street Rochester, New York 14607	Cassette Tape for Foreign Language Independent Study
Mr. Henry Gadjo Sodus Central School Mill Street Sodus, N.Y. 14551 315 483-2451	Middle School Multi Media Center
Mr. Robert Sisson Spencerport Central School 2701 Lyell-Spencerport Road Spencerport, N.Y. 14559 716 352-3421	Reading Improvement Center and Communication English
Mr. Erik M. Jager (BOCES) Washington County Bldg. Annex Hudson Falls, New York 12839 518 747-2867	Multi Media Kits for Health Education Grades 4-12
Mr. Alfred Sadroga West Seneca Central Schools 45 Allendale Road West Seneca, N.Y. 14224 716 674-5300	An Individualized Remedial Reading Program
Mr. Norman Plezia Williamsville Central School District 5225 Sheridan Drive Williamsville, N.Y. 14221 716 634-5300	Instructional Packages for In-School and Home Use

GENERAL SESSION

ACCOUNTABILITY AT THE LEARNER LEVEL

by Tom Haddock, Assistant Superintendent
Washington School District
Phoenix, Arizona

Before getting into the details of Project TIP TOP I think it will be necessary for us to do a little background on the Washington Elementary School District. This is a suburban district of Phoenix, Arizona and as such, I think, is an example of the many problems facing education and society in general. The Washington District has changed from a country school district of one school to a metropolitan school district of over 15,000 students and will reach a maximum of 30-40 thousand students at some time in the future.

The District is a typical middle-class suburbia with all the connotations that this carries from sociology; however, the district does have the extremes of both socio-economic levels with some youngsters coming from relative poverty and some coming from relative wealth, but most of the children come from middle-class sub-division homes valued at from 10 to 40 thousand dollars. The District also demonstrates the development of the technological society, as what little industry we do have in the District is made up of electronic plants which are deeply involved in the space program and other electronic gadgetry. These people are very interested in a good educational program and traditionally support this kind of education. We, like every other state in the Union have seen a great increase in the number of Junior Colleges and have Glendale Community College located within our district. The growth in technology has changed Arizona from a largely agricultural state into a manufacturing state with the electronic industry being the number one employer at the present time.

The Washington District staff along with many educators across the country recognized the necessity to make a greater effort in meeting the needs of individual pupils and a few years ago began to work with members of the staff in developing an individualized instructional program. Project TIP TOP is the outgrowth of this program, TIP TOP standing for Teaching Individual Pupils Through Team Organization and Planning. The District's attempts at team organization and planning have followed the general guidelines established by Robert Anderson in developing a cooperative teaching program. Anderson's definition of cooperative teaching would have from three to six teachers planning and organizing the instructional program for a large group of students. This is the model we have attempted to reach and currently have three schools in which cooperative teaching is the basic staff organization. Our teams of teachers are made up of four, five, and six staff members and they organize themselves in various ways for meeting the needs of individual pupils. In some instances each of them has taken the major responsibility for a subject area and has departmentalized to a certain extent while maintaining their contact with the total group of pupils. In some instances members within the team have chosen to work specifically with one or two other team members in developing the instructional program through the use of small group, large group, independent study activities with certain members taking the major responsibility for one of these subdivisions.

I would like to relate just one small story which epitomizes the student behavior we are trying to develop. One of the team members involved with social studies at the intermediate level noticed that two particular girls who were known poor achievers were now making excellent grades on their evaluation tests. The immediate reaction of an experienced teacher was -- the girls are cheating! The teacher was unable to detect how they were cheating and as a result brought the girls' situation to the attention of the total team at their next group session. They were given the answer by the teacher who was working with the small group discussions. In this team organization the students "sign up" for their small group discussion when they feel they need this type of experience and it meets their schedule. These poor achievers were signing up for a number of small group sessions over each topic so that they would hear the same topics discussed by several different groups of students. I feel the important aspect of this situation was not that the girls' achievement improved, not that the small discussion groups improved their content learning, but the important point to me is that the girls made this decision for themselves -- they took the responsibility for signing for the additional oral work instead of having an authority figure make this decision for them. This is the type of change in behavior we are looking for rather than a change in the number of dates children can memorize.

If we believe in individualization for children, then we must accept the idea that the different teaching teams will also organize and function differently. Pupil evaluation is done as a cooperative endeavor so that more than one teacher is involved with the evaluation of students. Parent conferences are conducted as a group so that parents will meet the entire teaching team that is dealing with the individual students. This has been one of the very interesting aspects of this program. Teachers do evaluate individual pupils differently and it seems to improve the evaluation to have the different opinions of several teachers concerning an individual student. The organization of cooperative teaching helps individual staff members recognize the need for staff differentiation, and in addition to the differences in the responsibilities of the teachers for subject areas they have also recognized the need for different responsibilities in other areas of the teaching act.

We have added three kinds of teaching aides to our teaching teams -- the most numerous has been the clerical type of aide, or an aide who can do monitoring or clerical work. This sort of aide can come from within the school community and can be one who has a relatively limited educational background but who can meet the demands of a clerical position. These people have not only done an outstanding job in meeting the demands of their work but have become somewhat our best public relations agents. We also have used university students in a teacher aide position. We have called these people teacher interns as they have all been juniors and seniors at Arizona State University. We feel that this is benefiting both the student and the school district. The student will benefit from the increased contact with students over what the normal student teaching situation allows, and the District will benefit from a prospective teacher with more classroom experience and an opportunity to become acquainted with the school district and its methods and procedures. Of course, a concomitant advantage for the District is to acquaint these young people with the newer organizational patterns of education with the hope that they will be ready for a team teaching assignment when they have completed their college degree. We also have used a few retired teachers as teacher aides. We have given these people the title of "Small Group Specialists" and they have made a fine contribution in this area. We also have used volunteer teacher aides. These are people from within the community who come in for a specified number of hours during the week to work as part of a teaching team on a strictly volunteer basis. We have been careful not to give these people strictly a clerical type of work but tried to involve them directly with students, which would be more rewarding to them.

For cooperative teaching to be successful, time for planning and organizing must be written into the school day and this is a great responsibility for the principals to provide this time for teachers to plan together within the normal working day. Fortunately, through the use of special teachers in art, music and physical education, our teaching teams have been able to meet together daily for a planning period, and of course they do meet before and after the regular working day for some special sessions. Some of our groups have also had night meetings at their individual homes and have actually met throughout the summer on a volunteer basis to plan their programs. Perhaps one of the most valuable outcomes of this cooperative teaching is the renewed dedication shown by members of the staff because of their deeper involvement in the decision-making regarding the educational program of the children under their care. Team organization and planning seems to insure more stimulating lessons, more thoughtfully planned and executed instructional periods, more opportunities for children to be involved in small groups, and a more realistic evaluation. But team organization and planning by itself will not insure an individualized instructional program.

Early in Project TIP TOP we tried to identify the criteria for materials which we would use in this program. We felt that material should be self-directional, it should be self-correcting, self-pacing and it should be multi-media. This is establishing a very high criteria level for any instructional material but this is what we felt was necessary to develop an individualized instructional program. Needless to say, this limited the material that was available to us, but we did find some which would meet these criterias. We fortunately found two reading programs which would allow a self-paced, self-directional, self-evaluative reading program in Grades 1 thru 6 which would in essence ungrade the reading program. We use the Sullivan Programmed Reading in the primary and the Macmillan Spectrum for reading at the intermediate level. They articulate well so that the youngster may go from one to the other without any difficulty, allowing the bright, highly motivated youngster to move ahead and the slower child to find success at his own level. We have found a number of programmed and semi-programmed science, math and language materials which, although not complete and not continuous, do provide some remedial and advanced work for students. We have used a number of kits such as those from SRA and Encyclopaedia Britannica, but again the material is somewhat limited and not of a continuous nature. We have our own audio-visual center in the district which has some 5,000 items available through daily delivery and pick-up and have encouraged the use of this material to again add stimulation to the educational program. We have tried to emphasize that learning is not limited to reading, that children can learn just as well from other media and that a youngster should not be punished in other areas of the curriculum simply because he does not read well.

Associated with a change in the staff organization and change in program material is the need for a more flexible scheduling procedure. In the three schools working on Project TIP TOP the intermediate grades are operating on what has become known to the children as "flexed" scheduling. At Manzanita School, for example, there are 468 intermediate students on a teacher-student demand schedule. Each afternoon the students develop their own individual schedules after filling in any areas where the teacher has made a demand on their scheduled time for a large group, small group or conference. These student-completed schedules are then returned to the teacher or aide who totals the individual area requests and submits the totals to the office for school-wide scheduling. The principal, the intern, or aide then assigns the students to their requested classes making only those changes necessary because of space limitations. The student schedules are returned to the individual the next morning with any necessary changes and the teacher is supplied with the classes and number of students to be in each section. The "flexed" scheduling has worked without any problems at this point and we think that maybe an aide will replace the computer.

The fourth area that needs to be changed, along with staff organization, materials, and the scheduling procedure, is that of physical facilities. We have been attempting to meet individual needs through team organization and planning by using traditional facilities but we eagerly await the completion of some new buildings which will provide the open-space concept necessary to do the total job of organizing and planning together.

We feel that in order to adequately meet the needs of the individual there should be considerable change in the way our staff is organized for teaching, there needs to be a great deal of change in the kind of materials and methods used with children, and there also needs to be a considerable change in the physical facilities in which teachers operate. A differentiated staff, new materials and methods, and improved scheduling within a building employing the open-space concept can improve the educational program but these changes alone will not insure individualized instruction.

Probably the most innovative aspect of Project TIP TOP is the development of the Individual Curriculums. We generally refer to these as IC's. They are simply a means of individualizing instruction through the use of traditional material and equipment. Perhaps most teachers in the

U.S. have been frustrated these last few years as they have been told from every angle to "individualize instruction" -- and many curriculum people have been completely frustrated as they attempted to provide the know-how for teachers to individualize instruction. Because of this frustrating experience a number of people in our district began to work seriously and practically on the problem of individualizing instruction using traditional materials.

It makes a long story short but we agreed that there were some very important concepts that were not being developed under the tradiotnal program that we would consider our most important outcomes for the individualized instructional program. These concepts are that students will:

Feel responsible for learning
Learn how to learn
Discover the excitement of learning
Derive satisfaction from learning

We were also in agreement that the instructional program must use materials that are:

self-directing
self-pacing
self-correcting
multi-media

As Robert Anderson provided the base from which we developed our cooperative teaching organization, Robert Mager provided the foundation from which we eventually developed an individualized instructional program using traditionally oriented materials.

A small group of staff members (on their own time) began to develop a sequenced series of skills and concepts that were taught at the intermediate grade level for each of the areas of language, mathematics, science and social studies. These skills and concepts became the learning objectives after they were re-worded in behavioral terms and in language that the student would understand. These behaviorally stated learning objectives answer the first and most basic question - what are the learning objectives for the particular school or district.

An example of learning objectives from a science unit concerned with weather might indicate the kind of objectives we are talking about.

Learning Objectives

Be able to construct a correct definition for weather.
Be able to identify from a given list the name of the scientist who studied weather.
Be able to list the four things that make up all of our weather.
Be able to identify from a given list the instrument used by the weatherman to measure temperature.
Be able to accurately read the indicated temperature from a thermometer.

The second question that needs to be answered in terms that are understandable to the student is how are the teacher and the student going to know when the learner has met the learning objectives. If the program is to be self-pacing and self-correcting the learning objectives and the acceptable standard must be clearly and precisely stated so the student may evaluate his own work. The Individual Curriculums we have developed include what we have termed the Standard for Acceptable Performance. This also must be stated in language that is meaningful for the student and provide sample items which will indicate the type of activities the learner will be expected to perform. The Standard for Acceptable Performance used on the IC for weather indicates:

Standard for Acceptable Performance

The student will be able to pass a test based on the above objectives with 80% accuracy. The test items will be like:

_____ 1. To measure weather, a weatherman uses:
(a) barometer (b) thermometer (c) anemometer

List the four things that make up all of our weather. Read and record the temperature from the class thermometer.

In providing the learner with this standard and sample test items we are helping him develop his self-evaluative skills, helping him accept the responsibility for learning and helping him gain the necessary insight into what will be expected of him upon completion of this Individual Curriculum.

The third part of the IC is the Learning Resources which will be available for his use to meet the learning objective. The Learning Recources necessary for this example we have been using would be:

Learning Resources:

Teacher led presentation of large and/or small groups
Today's Basic Science, Book 4, pp. 23-24
Book 5, pp. 113-116
SRA Science Kit - Weather, Unit 1, 1A-1E
Coronet Instructional Programmed Book, How We Forecast Weather
Silver Burdett Student Lab. - Measurement
Audio-Visual - See Catalogue
All Kinds of Weather 517-S
Weather Station 150, 11 min.
Weather Changes 530-S
Weather Maps and Weather 516-S
Weather Model 38-SC
Climate and the World We Live In 110-L, 14 min.
Visit to a Waather Station 515-S

Through the use of varied learning resources we have attempted to meet the differing ways in which children learn. Included are basal test material, programmed and semi-programmed material and all of the audio-visual material available in the District.

To indicate how this Individual Curriculum can be used to individualize the learning program I need to talk about the two extremes that may be found in any classroom. First, the bright motivated youngster who has been doing much supplementary reading - when this youngster reaches this particular science IC he may feel that he can successfully meet the Standard for Acceptable Performance without any additional study and, if so, would be encouraged to try. Through this means we would stop teaching children that which they already know. Following the successful completion of this IC the learner would proceed to the next one- perhaps moving through a number of them before finding a level of learning which demands that he do some study with materials from the learning resources. The other extreme in the classroom - the student who is experiencing learning difficulty may need to use most of the material listed in the learning resources with perhaps an emphasis on the audio-visual material if the student has a reading problem. Because the teacher is not constantly busy teaching the whole class he has time to act as learning consultant to individual pupils.

The Individual Curriculums can be envisioned as an ungraded, continuous progress pathway of skills and concepts that we feel children should work through as they progress through what is traditionally called the intermediate grades. I would want to make it very clear that although we seem to be stressing the subject content in these IC's the most important objective is the process the learner goes through in working with the content.

Perhaps you would be interested in some of the ways in which we have tried to get the staff ready for these changes in staff organization, materials and methods. The procedure most often used has been the pilot group approach - we have allowed or encouraged interested teachers to begin in an innovative program and they have become the resource people who stimulate and work with other interested people. This will be the first time I have made a presentation concerning this program that I did not have at least one teacher with me to report what the situation is on the firing line. These pilot teachers have conducted formal and informal discussions and workshops for staff members who were considering beginning individualized instruction.

As Assistant Superintendent for Educational Services I have also functioned as Personnel Director so have had the major responsibilities for hiring teachers. This has certain advantages (picture of good-looking gal). What I meant to say was that through discussions during interviewing I can try to determine if a new teacher would fit this kind of program.

As I mentioned earlier, we use many student teachers as well as teacher aides from Arizona State University, giving us a pool of prospective teachers who have had some experience with cooperative teaching.

An additional means of preparing our staff has been through a graduate extension class from Arizona State University which I have taught using Individual Curriculums written in the same manner and using the same procedures as the student IC's.

Perhaps one of the most successful means of preparing the staff for a school-wide program of individualized instruction through cooperative teaching is the development of self-contained individualized classrooms. For example, a second grade teacher at one of the schools not

involved in TIP TOP began individualizing her program last year and was thrilled as some of her youngsters began to move far in advance of her former expectation for second graders. This caused her to become concerned with the program that would be offered her children the succeeding year. She began "selling" a teacher in the third grade at that school on the advantages of this approach to teaching. They are both currently proselyting a fourth grade teacher at that school to continue the program next year. These two teachers are beginning to develop a vertically organized team.

There is no question that the fact we have a predominately young staff and add fifty to one hundred new teachers each year has allowed us to keep an active interested group of innovators. But I must admit that I find there isn't too much correlation between chronological age and flexibility.

Let me summarize briefly by saying that Project TIP TOP has been an attempt to take advantage of teachers working cooperatively with large groups of children for whom they are jointly responsibl and to take advantage of the fast growing competencies of teachers and their ability to assume an increased responsibility for decision-making. We have attempted to blend in materials and teaching techniques that will take advantage of the flexible staff arrangement to meet the needs of individua pupils as nearly as we can at this time.

REDESIGN FOR ACCOUNTABILITY

by Raymond Graf, Supervisor of Educational Televis
William Halligan, Associate in ETV
Nancy Pline, Associate in ETV

A Project of the School Television Unit of the State Education Department, The University of the State of New York. The aims to achieve are:

- Improved reorganization in education, especially by making the roles of both teachers and para-professionals more relevant and productive.
- Improved cost effectiveness.
- Improvement in both quality and kind of instruction.
- A further guarantee of equal educational opportunity to all children in New York State, regardless of geographic, economic or ethnic circumstances.

If you are interested in further information on Project REDESIGN FOR ACCOUNTABILITY, contact:

New York State Education Department
School Television Unit
Room 264 A
Albany, New York 12224

518 - 474-5823

A ZERO DEFECTS PROGRAM FOR THE MANUFACTURE OF AUDIO-VISUAL EQUIPMENT

by Herman E. London
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I notice that this room is very crowded and that there are people standing all around the perimeter and even outside the door into the corridor. I have a plan that might help thin out the audience.

If there is anyone among you who has not purchased a car and then spent endless amounts of time trying to get the dealer to remedy the malfunctioning, inoperative and mis-manufactured parts of the vehicle, you may leave. If you have never bought a home appliance....refrigerator, washing machine, television set etc., and then made a fruitless effort to get the manufacturer to honor his warranty on the defective equipment, then you may leave. If you have never spent a portion of your hard-won audio-visual budget for equipment, only to find that upon arrival it was found to be inoperable or defective, you will not find what we say in this room of interest to you.

I note that the members of this audience have not left enmasse. I must therefore conclude that we all would be interested in a program aimed at producing equipment devoid of manufacturing defects.

First, let me recount some of the experience told to me by our colleagues throughout the state. Did you hear about the opaque projector designed so that the user doesn't merely lower the platen to insert new material but must rather raise the entire weight of the machine. This is done by means of a small lever that strips off its shaft very quickly. The manufacturer tells you that an even smaller release button (not appropriately marked) must be held back while the lever is pushed.

Do you remember the 16mm projector of a few seasons ago with the fold down handle? The metal anchor screws were fastened into the plastic of the handle and after folding down the handle a few times the plastic would crack and just fall away. We wrote to the company (one of the biggest projector manufacturers) and complained. They wrote back and said we were mistreating our equipment and that no other customer has reported that problem. However, they were sending us a couple of new handles free of charge and...the next year the handle design was changed.

A colleague in lower Westchester opened five consecutive factory-sealed cartons of film-strip projectors and found every one of them defective in the same way...the three position switch which should have provided "off--fan--lamp" was mis-wired.

A well-known brand of magnetic-sound super 8mm projector would function for a few minutes and then conk out. It seems that insufficient cooling was provided and that printed circuit-transistorized amplified couldn't take the heat. Two of my professional buddies, whom many of you know, were then teaching a graduate school teacher education course and couldn't get any of this model of projector to function on a critical night of a movie production course. They called the factory long-distance and were told, "Oh yes, we know, we've been having a lot of trouble with those projectors...you can't run them for more than a few minutes at a time before they conk out."

A few years ago I was associated with an educational entity that felt that computer assisted instruction was going to be the salvation of the school world. We had a computer terminal that was supposed to randomly access slides, play specific tapes, and display printouts all according to the student's responses to a professionally debugged program. Do you remember the old Blondie and Dagwood movies in which the radio was turned on and the breakfast toast shot up in the air? Well, we became pretty proficient at catching pop-fly two-by-two slides. You can guess the name of the computer corporation which has since dropped computer assisted instruction as a feasible area of pursuit.

There's a little television console on the market that incorporates a unique audio circuit. Everytime the director flips the switch to talk with his camera men and floor manager, he loses program audio. How would you like to produce a videotape with large gaps of silence or even worse just the director's comments?

Speaking of videotape machines, those of us who purchased "bleep bleep" brand against our better judgment, but at the state's strong urging live daily withthe machines on "down-time" or just limping along. This same company sold a package consisting of a tape machine, a monitor-receive a camera complete with tripod and lens, and associated cables. The body of the camera ran front to back, naturally but the top of the pan head of the tripod had a side-to-side configuration. Imagine trying to operate the camera precariously mounted on that criss-cross, one-point-perch! But wait! The package was touted as having the capability of videotaping programs off the air. However, after everything was tuned in and adjusted ready to go, the moment you turned on the recorder itself, it sent out so strong an electronic jamming signal that it obliterated the program you were trying to record.

Let's pause here a moment to give you a chance to share some of your audio-visual equipment experiences before we go on to the more constructive part of this presentation...

You may wonder why I have asked for comments from the floor so early in my presentation. Well, I wanted to reassure myself that we all have a similar frame of reference.

While I saw so much new audio-visual equipment coming through defective or completely inoperative, I thought, "Somebody must be trying to maintain standards of quality!" I came across a tiny article in one of the popular science magazines that mentioned efforts to produce manufactured items without defects. The so called "Zero Defects Programs" were aimed at producing products mainly for the government to purchase. I then came across a reference to a government publication. I sent $2.00 to the Superintendent of Documents, U.S. Government Printing Office and received in return "Zero Defects--The Quest for Quality, Technical Report TR 9, Office of the Assistant Secretary of Defense, Installations and Logistics." I'll now hold this book up for you all to see.

The Table of Contents was quite interesting. Experts in the various fields had each been invited to contribute chapters dealing with the economics of defectiveness, the technical causes of defectiveness, eliminating the causes of defectiveness, the basic concepts of a zero-defects program, etc. etc..However, when I began to try to read through the book, I found that it had been misprinted and mismanufactured. Large sections covering the above topics were left out of the binding and in their place were many duplicate pages of the introductory parts of the book. This government publication was worthless to me!

So, I have compiled my own list of procedures that may not insure the manufacture of defect-free equipment but at least do help my school system to acquire defect-free audio-visual hardware.

First, we try to work closely with the dealers. Dealers don't want the headache of taking back defective equipment any more than the customer wants to return it. Recently one of my teachers curiously remarked that although she had carefully rehearsed and timed certain literary material at home, when it came to tape recording it in school, she seemed to run out of tape. Other teachers noted the same with other reels I had given them. I checked and found that every single reel of tape in a particular shipment was short 50%...or mislabeled as to tape type if you prefer. I told the dealer and wrote a letter to the manufacturer with a carbon copy to the dealer. I heard nothing but I do know that that dealer carries a different brand of tape today.

Next, when funds are available at the opening of a new fiscal year, we try not to have the equipment delivered early in the summer. It would only sit around in sealed cartons for sixty days while two-thirds of the ninety-day warranty runs out. We try to have equipment delivered in the early fall and then we make an effort to open the cartons and check out the items as soon as possible.

We try to convince those companies that sell directly to the schools, (rather than working through a dealer) to follow the practice instituted by the 3-M Company. If you have noticed all items shipped to you from 3-M have an inscription on the carton warning the customer not to open the package, but to wait for the company representative to arrive, unpack, set up and test the equipment.

We try to obtain information about relative merits of audio-visual hardware. Although Consumer Reports only rarely deals with items such as cameras, schools would buy, I find their comparative charts are a valid jumping-off place for considering purchases. Similarly the Educational Products Information Exchange (EPIE) evaluative reports give us a starting point from which we can go out and make our own decisions as to purchases. Of course the audio-visual grapevine is a great help in transmitting information about cetain "dog" machines out on the market.

But more has to be done. Stronger measures have to be taken to weed out defective equipment. First I advocate including a notice on all school purchase orders similar to the one inscribed now that says "Tax exempt Institution--No Sales Tax." But this one would say "Payment Will be withheld on all bills for equipment received defective or inoperative." and "Equipment received defective or inoperative will be shipped back to the manufacturer collect!"

Next, I propose that we all pressure the federal government to release more data under the Public Information Act. As of now only a trickle of information concerning the government's laboratory findings about hearing aids etc. have been released. Cases are now in the courts which will determine whether the facts about items tested at government expense, prior to G.S.A. purchasing programs, should be released to the taxpaying public.

More locally, I feel that although the personnel in our Albany offices may be sincere, dedicated civil servants, erroneous recommendations may emanate from their offices. Possibly because of lack of time and probably because of lack of adequate testing-laboratory facilities and personnel, a particular brand of equipment (videotape recorder, for example) may be thrust upon the many schools, against their wishes, to be carried as a burden by media-oriented teachers for many a long year.

And, lastly, there has to arise from among us, the communications specialists, a man similar to the one who arose from within the consumers' ranks. We need an audio-visual Ralph Nader who can go out and fight for us..and help bring on the day when most of the equipment delivered to the schools will be products of a real zero defects program.

CREATIVE WRITING THROUGH FILM MAKING

by Mildred C. Blank
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Perhaps you are wondering about the title of my talk. "Creative Writing" is used here in its broadest sense, and I think you will understand its meaning by the end of the session. I am planning to share with you the 'why' and the 'how' of an idea that came to me three years ago. I hope to take you with me through its development until today and ask you to help me to explore its possibilities for the future.

Three summers ago, the Headmistress, together with some of the Faculty, was striving to plan a new meaningful program for the High School Freshman Class, one-third of whose members would be from deprived areas. Without lowering our own academic standards, we wished to help these students to succeed in following our curriculum. At that time, I was following Film Courses at Fordham. Suddenly I conceived the idea that there might be a place in the Freshman team to teach Creative Writing Through Film Making. Through this course I wanted to help children release, through the visual, the creativity that they might not be able to verbalize. No matter from what area or background a student comes, there are always some whose power of creativity, for lack of discovery of the appropriate media, remains undeveloped or unexpressed.

My colleagues received the idea with enthusiasm and we began to plan incorporating such a course into the English program. There was, however, the usual lack of funds! I wrote to more than one hundred stores and film industries trying to interest them in the program and asking for assistance. The returns were not heavy! But at the end of October, one gentleman sent a check for $500.00 (Our first Film Festival was dedicated to him!). In the meantime, I faced forty-seven students with only one camera, one projector, one editor and one splicer in my possession.

The students were divided into three groups for all teaching. I began by teaching them some film language and drew parallels between the structure of written composition and film episodes, film shots, etc. We discussed themes in composition, in music and film making. I showed a silent film that I had made in the summer, showing unusual shots and angles. The film was entitled "From a Rabbit's Point of View." This had been a source of much amusement in my own film class but it proved very useful and helpful in my film teaching. The students were taught to write a monologue. This one film received forty-seven different interpretations and had the same number of monologues to bring it alive. The students enjoyed this method very much.

Then the check came! The much needed equipment was bought and our program was safely launched. Each student chose a theme, borrowed a camera and went off on her own to try and

project her own ideas on fifty feet of film. I deliberately taught them the least possible amount of technique because I did not want them bogged down by it lest the creativity suffer. Each student was shown the fundamentals of film shooting and then left to herself. After the films were processed, each one made her own title, and recorded on tape, the music most appropriate to her film. This work took the whole of the first trimester.

Since I was part of the team teaching, I was continually in touch with the other English teachers. They had taught the Short Story in Literature Class, so I began the second trimest by teaching the students how to change a short story into a script. They then chose one of t stories already read and changed it into a film script. Then came the great moment when each wrote her own short story, keeping in mind that it would have to be possible to "shoot" as a film. Upon the completion of the short stories, several periods were given to reading them anonymously to the class. One story from each group was chosen to be its "feature film," and the writer had to change the story to a script. A "crew" was formed to make the film. Everyone had some special duty. All knew by that time, who were the good cameramen, etc. Th writer was usually chosen as the director. Only members of the group could be crew members o actors. I suppose I was the producer - in any case I had to produce the raw stock of film an the equipment. This production took the whole remaining time of the second trimester and sometimes went on into the third trimester. Students who would never have mixed with other girls worked and produced the "feature film" together. So this contact had far-reaching and beneficial effects.

Until now I have been speaking in the past tense, but I am still following the same program with the Freshman Class. The other classes were not happy to have missed this course in their day, so they asked to have it put into the other classes as an elective. Last May w had a Film Festival for the parents and friends of the students. I asked several of my former professors from NYU and New School to come to the Festival and to give me some constru tive criticism. They were among the audience who voted for the best films. One student was presented with an Oscar-a real one. This caused much excitement. There were four other priz and five honorable mentions.

I feel that this course makes the student realize her own potential to create, and we ho it will prevent some students from turning to harmful sources for their "kicks" or excitement It helps them too, to realize the amount of work and patience that goes into film making. A number of students ask to come in on Saturdays to work on their films. Parents are happy abo this manner of spending free time.

I have brought a few-only a few, of the students' films. You may be interested in seein them. Last year's mail strike was disastrous for us. Some films were lost, and others arriv too late for the festival. This was so with regard to last year's "feature films." I am sorry not to be able to show these to you. One in particular was very good but the opening scene was lost. We tried to complete it this year but the star has gone to live in Washingto

The first film is in 8mm. All the others are super 8.

1) CARING by Anne O'Malley
2) PATTERNS by Alessandra Gradi
3) MOVEMENT by Margaret Ann Pierri

The last named student helped me to assemble the films for this showing,and retaped the music.

Mrs. William Kavanagh, our Admissions Directress, kindly consented to come with me and r the cassette tape recorder.

After the films are shown Mrs. Kavanagh and I will try to answer any questions you may wish to ask. I would also welcome any suggestions for our work so far and in the future. Thank you.

SCHOOL-WIDE PROGRAM FOR TEACHER-STUDENT EVAUALTION OF FILMS

by Bernard Buchweitz
Rome, New York

That was the week that was, Film Preview Week, May 11-15, 1970, a very successful week for Rome Free Academy's Audio-Visual Center, a truly meaningful week for the students and faculty of this high school, and an important week for the Audio-Visual program in the city of Rome. For an entire week educational films became the magic quantity, the central topic of discussion, focusing attention on the learner rather than on the teacher, on individual rather than group instruction. Eleven films being shown simultaneously in the same room had a hypnotic effect; teachers, students, administrators and visiting members of the public were mesmerized; they were forced to consider (and for some scoffers to reconsider) the value of film in instruction and learning.

The subject of this report will be two-fold: one, to factually relate what happened, to discuss this student-teacher evaluation project; and secondly, and perhaps more importantly, to consider the long-range effect of this one week program.

In the Fall of '69 I began a critical evaluation of the use of 16mm film at Rome Free Academy. Initially, I was most pleased with my satistical finding: for over a five year period the use of film had multiplied three-fold, a permanent film library containing over 100 titles had been acquired, and a host of new projectors had replaced ancient and dilapidated equipment. However, in reviewing the utilization of films, I found, to my chagrin, that the teacher solely determined the choice of film and the time that it would be shown in the classroom. After extensive interviewing I realized that when film was used in the class it was a mere adjunct to the individual subject curriculum rather than being an integral part of the learning experience. Likewise, I found in talking to students that many had negative attitudes when it came to using film in a classroom. Either the rental film was irrelevant or outdated or it was used just as a change of pace, too often shown and then forgotten. And lastly, just as I was completing my study, some of the new and young language, business, and biology teachers, voiced their unhappiness with the quality of the films we were renting, indicating a strong interest in searching for and previewing new film materials better suited to convey the messages desired. The film collection owned by the high school was quite strong in the language arts and the social studies; the collection did not contain one business title, and only two language films were a part of the permanent collection. Thus, I felt, there was a need to examine new film materials, a need to change negative student and faculty attitudes, and lastly, a need to re-orient faculty thinking---to think of using film individually as well as collectively. The result--Film Preview Week--The emphasis--individual previewing and evaluation by Faculty and student.

Should the student be an evaluator? Is the student capable of making valid judgments of educational films? Isn't the teacher or a committee of teachers better qualified to judge whether a film meets curriculum objectives? How do student and teacher evaluations compare? What do teachers have to say about students evaluating films? Do negative teacher film attitudes change when students, after previewing, display positive attitudes? Should films be evaluated individually?

These were some of the questions that I envisioned from some traditional teachers, those who were most critical of using film as a means of instruction.

How surprised I was when this good friend of mine, a junior high school industrial arts teacher stopped by the week prior to the Film Evaluation Program and asked in a rather harsh tone: "Bernie, Why are you having kids evaluate films?" Before giving me an opportunity to answer his face broke out into a big grin and I can still recall his words, "Boy, that was a really stupid question! Why do we use films in instruction? If the youngster is to learn from a film experience, shouldn't he likewise be able to judge (I do not mean to say on the same sophisticated level as a professional group) whether the film can get its message across?"

Let me read some excerpts from the Rome Daily Sentinel, the local newspaper, dated May 16, which aptly describes what happened.

> Rome Free Academy pupils and teachers turned "critics" this week as they took part in a film evaluation program sponsored by the school's audio-visual department.
>
> During the week, designated as Film Preview Week at Rome Free Academy, approximately 1,000 persons viewed one or more of 240 films provided by eight companies. Eleven projectors were in use constantly for individual viewing. Students who

had signed up ahead of time and received appointment passes from their instructor to be excused from study hall were on hand during the school day and others were waiting in line before 7:30 a.m. or stayed until after 5 in the afternoon.

"Price of admission" was to fill out a brief questionnaire on the film viewed. Bernard Buchweitz, audio-visual director in charge of the program said the evaluations will be used as a guide for selection of films to be rented or purchased in building up Rome Free Academy's film library.

For Film Preview Week, the second-floor audio-visual classroom was transformed into a "movie house." Rows of reels in numerical order were arranged in the center of the room and projectors were set up at both ends, with the walls used as viewing screens. There were even two refreshment tables with cake, coffee, and fruit punch for the moviegoers.

As a student or teacher entered the viewing room he picked up printed lists of numbered titles from which to choose, showing the running time of each film. After selecting a film title, the viewer took the numbered reel to a projector where a trained projectionist threaded the film. Each viewer was provided with a desk and earphones and an evaluation sheet for his opinion on the quality, purpose, and value of the film.

The program has met enthusiastic approaval from both students and faculty. John Lovier, social studies teacher, called it "an outstanding opportunity for students and teachers to improve their subject matter." John Humphrey, also of the social studies department, termed it "a tremendous idea." He said, "It is a good undertaking, bringing to students and teachers a variety of films not readily available. If a picture is worth a thousand words, then a movie is worth much more."

Typical comments from students: "Kids should have an opinion on what films should be chosen" and "I wish I had made more appointments."

What guaranteed the success of this program? The answer, I think, was two-fold: the good film product and outstanding student involvement. Students were involved in

planning
ordering materials
preparing catalogs
publicity and invitations
operation
maintenance of equipment
splicing damaged film
reception
preparation and participation
refreshments

and lastly, and most importantly is the evaluation of materials for preview.

Over 100 students gave of their time to help produce this program.

But success could not have been achieved had there not been a <u>place</u>. A place was made available for the period of one week. The program was a tremendous success. A by-product: the possibility of a media center long dormant in the minds of Roman administrators once again became a viable topic of discussion. Today that former speech classroom, study hall, meeting room is the <u>School District Audio-Visual Center</u>.

There is another thought that I would briefly like to share with you, my fellow professional educators, before concluding. From what I observed and from what I think can be seen in the photo displays it might be wise to further test the following hypothesis: 16mm sound films should be previewed individually and silently. Or, to put it in another way, in order to properly evaluate film, it would be most advisable to eliminate noise distractions, to wear individual headsets, to have complete individual concentration.

Thus in developing Film Preview Week there were a number of primary and secondary objectives: some obvious, some not so obvious. The results were truly beyond expectations. This program which combined the overwhelming power of good film with a pleasant individual viewing area and the promotion of individual responsibility, <u>this program</u> was instrumental in bringing about change. Reinforced most concretely was the idea that when materials are readily accessible,

they will be more often used. Film Previews, Reviews, Exposures, whatever label one gives the program, should and must be held in all school districts. I think it also important that students take an active part in the planning, implementation, and evaluation of such a program. For aren't schools built for and don't they exist for the student? Shouldn't the materials that are used help the student to learn?

POTENTIAL OF MEDIA IN READING EDUCATION

by Jane Algozzine
Chief, Bureau of Reading
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Good reading instruction is characterized by maximum provision for meeting the individual needs of the learner in content, pace and varied approaches to the learning process. Media cannot be supplementary to such instructional practice, it must be essential. Only the versatility of media, which allows for varied approaches to the teaching process, will enable the classroom teacher or reading specialist to adapt and modify instruction on the basis of the learning level, specific needs, and learning rate of students. The media specialist has a specific obligation to these people in making them aware of the learning approaches that various media will employ and helping the school to plan those conditions which will enhance wider use of available media.

Present classrooms prohibit the effective use of multi-media in instruction. So does the system of central storage for all hardware and software essential for the reading program.

Compare the usual classroom conditions with the more desirable media-centered ones. In the usual classroom the teacher's desk is placed center front with lines of chairs in all but the more formal primary classrooms. Facilities such as screens, outlets, shades are designed for whole group viewing or listening focused once again center front. Minimal provision is made for varying conditions to permit use of several media simultaneously by small groups or individuals.

Given the classroom facilities which would permit such use, every classroom can become a child-oriented individualized learning center in which many alternative modes of input may be used to stimulate learning.

Picture a classroom now in which there are a number of central learning areas which enable any child or any small groups of children to learn through interaction with many instructional materials and mechanical devices and human resources.

In such a classroom there would be one or more listening centers with an appropriate selection of materials which stress the use of the auditory channel and one or more visually oriented center for the projection of visual materials. In addition, classrooms would have carrels equipped with such learning tools as the Language Master, the programmed or controlled readers, the Craig Reader or the EDL Junior or individual filmstrip viewers.

I am not so naive to assume that making these materials readily available will redesign instructional practice. I am sure it will remove one of the most restrictive constraints on educational change, that is the lack of resources with which to do so.

The hardware and software must be housed in the classrooms rather than centrally located. Here it will be possible to schedule learning activities designed to meet needs and interests of the learner. If eventually our classrooms do not move in this direction, there will be only minimal use made of individualized instruction. I do not denigrate the concept of the central resource or learning center for other purposes but do emphasize that schools and teachers in them will not be involved in multi-media classroom instruction until both hardware and software are a part of the classroom environment which can be planned into the daily program rather than brought into it as a supplement to that program.

What will the payoff be on the investment needed to equip such a classroom? With some ingenuity and skill at the local level this kind of investment may not be as prohibitive as some will immediately view it. S. Alan Cohen's recent book TEACH THEM ALL TO READ is an excellent introduction to reading instruction. The book estimates that a listening center can be improvised which will not exceed $10 per station for equipment and installation. We should examine the learning opportunities such a classroom offers the child.

As more about the processes involved in learning to read is determined, more certainty becomes attached to the concept that no one approach to reading skills development will meet the needs of all students. Children's behavior as they meet the challenge of early reading instruction provides valuable insight into the avenues through which they learn most readily. Research over many years has shown that growth and development while similar in all human organisms is seldom identical in pattern, pace or degree. While most humans develop the ability to process information, they wish to learn through many receptive channels. It is not uncommon to find young children or older children who are experiencing learning difficulties limited to the use of a single receptive channel.

For example, one child, faced with the task of recognizing that c-a-t represents the spoken word cat and the animal, cannot seem to recognize the written word. CAT as a word has no connection with its meaning much less its spoken counterpart. He can, on the other hand, learn the word if it is presented to him as a blended sequence of known sounds. His method of learning leans heavily on the use of the auditory channel. He will succeed in learning to read if new information is organized in an auditory-visual pattern of presentation. The listening center is central to the learning activities for the child.

The visual learner, on the other hand, builds his system of word identification upon analysis of the visual form and is apt to identify word with object without any audial mediation. He learns to recall the associated object when the object or picture cue is removed.

The good teacher is aware of this preference or learning style and varies the teaching process to take advantage of it. Media allows her to involve children in the use of several learning styles and modifies the approach to fit the learning style.

In addition to the primarily auditory or visual learners in the classroom, there is the learner who requires a tactile approach to establishing the sound-symbol meaning relationship which beginning reading instruction seeks to develop. Multi-Media within the classroom permits the use of alternatives or combinations of teaching approaches which will serve the learner best.

Primarily auditory presentations through tape and cassette support the learning abilities of auditory learners. Predominantly visual presentation, accessible through filmstrip or slide combinations, capitalize on the multi-sensory approach which eventually becomes characteristic of most learners.

Commercial materails abound for teaching reading through media. Discrimination of quality both of content and mechanical performance are essential. In determining which to purchase, may I suggest the value of having children try out the materials. Careful observation will quickly reveal those with inadequate format and content. However, avoid devices which cannot be used with teacher made materials as well as commercially made ones. The tremendous appeal of the Language Master and similar devices has been their capacity to use teacher made software.

Most of the prevalent software for later skills instruction through media is phonically oriented. These are most valid for use with children whose auditory discriminations and perceptions are finely developed and who sense quicker fine similarities and differences in quality and character of speech sounds. Most teachers are aware of the fact that phonics is not a panacea for all poor readers. They recognize it as only one of a number of approaches to word recognition skills.

Up to this point, we have considered only one side of media's potential for the beginning decoding skills. It would be unwise to move away from this level of instruction without mentioning the contribution of media to language development and motivation for reading. I think especially of the fine storybooks accompanied by oral readings of them prepared by many of the major publishers. The eye appeal of the book itself and the fine performance of the reader allow the beginner or the non-reader to experience the pleasures of good stories. Nor, can we understate the contribution of the use of the tape recorder to early reading. Children, especially those labeled "disadvantaged," need endless opportunities to hear and use meaningful language. A child's listening to his own speech is an excellent technique for feedback on his performance and for positive ego development, especially in a minority group or with poor children who sometimes seem not to have found a sense of self worth. Tape recordings of children reading, if accompanied by observation of behavior while reading, becomes a powerful diagnostic tool for the teacher. When a series of tapes are made, they provide the reader with a confirmation of his improved reading ability as his reading power grows.

The films which broaden children's experiential background and introduce new concepts are also part of the potential to be tapped for reading. I think of some of the delightful ones prepared by ACI. Before leaving this area may I also commend the TV contributions to reading. "Sesame Street" has done more to make us aware of the tremendous potential in such programs. The major characteristics which mark the difference between the potentially able

and the potentially disabled reader at an early age lie in language facility, range of experiential background and broadness of conceptual development. Any media which contributes to the development of these characteristics contribute to the success each child will experience in learning to read.

I have not yet mentioned the machines which I am sure are foremost in most minds as the major vehicles for reading instruction. These are the tach-X and the controlled reader. Frankly, these two very useful devices have been so widely misused in the classroom that it is with some hesitation that I introduce them here. There is on the market excellent hardware of this type. The tach-X is used principally to develop rapid visual recognition of numbers, words, and phrases. By varying the length of exposure to fit the discriminatory rate of the viewer, the use of the tach-X increases visual acuity and speed in word and symbol recognition. Wisely used, it is an aid to developing perceptual ability.

The more easily used controlled reader has been an abomination in many classrooms. It is generally considered as a rate builder and eye training device to encourage left to right fixations without allowing regression. I hesitate to approve the purchase of this device for early grades since it is at this level that is so badly abused. The controlled reader, varying the speed with which light moves from left to right exposing the material to be read, encourages the reader to increase the time in which he is able to get meaning from the materials before it passes from his view. Used on an individual basis and at the proper rate and with materials well within the child's range of recognition and meaning, the machine will increase reading rate. Its long range effectiveness is questionable. There is little solid evidence that the techniques promoted by the controlled reading exercises are transferred to the reading of other materials. Because regression is characteristic of all of us when we read difficult material, there is little evidence that the young reader will transfer his training in eye movement.

The range of vocabulary levels within any class group and the range of rates at which individuals can get meaning from print are so widely varied as to preclude the wisdom of using either of these devices with large groups. For this reason the smaller versions of these machines, which may be used by the individual or a small group having similar rates of reading comprehension and vocabulary, are more useful in good instruction.

My primary concern then is that the AV coordinator, who frequently selects hardware to be purchased, become aware of the appropriate use of such equipment. This awareness should be passed on to the classroom teachers who frequently see these two machines as vehicles of whole group instruction and reading rate as the desirable outcome.

Any discussion of the potential of media in reading instruction should mention some of the more advanced versions of programed instruction for individual use which are part of the emerging educational technology. With the increased interest in means for individualizing instruction, learning packages based on the achievement of one or a very limited number of behavioral objectives have emerged. This allows production of semi-independent units of learning rather than a continuous sequence which must be used as a whole. The learning package provides marvelous opportunities for increasing the use of media in instruction.

For those of you who may be interested in a prototype of such teaching, I suggest you investigate the Unipacs produced at the Modulation Center, Olantha, Kansas. The structure of these packages as we have reviewed them have several constant characteristics. Each packet contains:

- Learner's objectives in behavioral form.
- A self-correcting pre-test to determine learner's status with a go-no-go decision on use of the learning package.
- A series of learning activities leading to the realization of the objectives.
- A self-correcting post-test to determine whether the objectives have been achieved.

Many of the learning activities can be presented through media. For example the Bureau of Reading Education has served as a consultant in planning the development of beginning reading skills for use on the Auto-desk. This desk presents an audiovisual program and provides an opportunity for manual and oral response by the student. At present there is no immediate feedback on oral responses but does have for the manual and written response. Dr. Frank Green of the Reading Center, Syracuse University is preparing the content of the programs. With the refinement of such devices and appropriate programs for them, the potential of media will be further advanced. You will note that the machine and its programed materials does not constitute the total program but is one of its essential components.

It would be impossible to discuss in detail the quality of the many devices and the accompanying software now on the market. It would be wiser to set some criteria for selection of materials for the reading program.

1. Insofar as possible the device should be designed for operation by students on an individual basis.

2. Hardware and its accompanying software should be selected because it is a vehicle for achieving the learning objectives of the reading program. Objectives for its use should be clear to the user.

3. Programs should be soundly based on valid information about the reading processes and presented clearly.

4. A program should provide immediate feedback or confirmation of performance.

The stress of this presentation has been centered on the developmental or classroom program especially at the early level. What does media offer to the corrective program and to secondary levels of instruction? It is in these aspects of program that the media center has value whether it be entirely devoted to reading instruction or to more diverse uses. The media center properly administered and supervised offers one of the most desirable approaches to the secondary reader and to the corrective program which is supplementary to the classroom or developmental program.

The lab will contain the same general equipment proposed for the elementary classroom. It should permit individual diagnosis and prescriptive instruction. The success of such a reading laboratory hinges on three important aspects:

- Accurate diagnosis and careful programing of instruction.

- A built-in capacity for independent use of programs with a continuing system of self-evaluation of performance by the students.

- An accurate system of record keeping to provide an orderly structure to the laboratory program.

Programing corrective reading concentrates on setting attainable goals for each student at a level which predisposes success. It provides opportunities for learning for many kinds of reading skills in the lab setting. The use of media enables the corrective teacher to vary activity and serves as an attention getting device. When the center is geared toward a more adult type of participation, the reluctant high school reader finds the remedial or corrective program far less demeaning than the more elementary oriented programs prevalent in the intermediate grades.

The secondary reading center should also serve the needs of the college-bound. It is in this part of the program that the mechanical devices for rate building discussed earlier are most appropriate and as in earlier grade levels should always be used on an individually scheduled basis.

Media has the potential necessary to change the nature of instructional practice in reading. It will permit the program to center on learner not teacher. Media permits variation of approaches to fit the learner's style. It increases interest and lends variety to what is frequently repetitious, dull in procedure and involving dreary paper and pencil drill. If open classrooms are to be effectively used and concepts of individualization implenented in our elementary and secondary schools, multimedia must provide alternatives for the more traditional means of instruction. The school must use the media potential available to bring about those changes which will revitalize instruction and increase its relevance to student needs.

THE STORY OF THE GREECE CENTRAL IMPC
(INSTRUCTIONAL MATERIALS PROCESSING CENTER)

by Douglas E. Cunningham, Supervisor
Instructional Materials Processing Center

Richard C. Edgett, Principal
English Village Elementary School
Greece Central School District No. 1

Stimulated by the ever increasing demands to do a better job of educating our children, five years ago Greece Central committed itself to a philosophy of education and a theory of learning that challenged us to ask ourselves three basic questions:

1. How do children learn?

2. What type of environment do we create to promote maximum learning?

3. How do we know children have learned?

The answers to these questions resulted in what we recognized as a triangular relationship among physical facilities, properly constructed instructional materials and students engaged in learning.

Our presentation today is primarily concerned with the second ingredient of the answer, properly constructed instructional materials. Good instructional materials are a strong motivating force for the learner. We feel that good learning is the kind that involves the interaction of the student with his environment. If a youngster learns best through a multi-media approach which implies that he should experience as many different stimuli as possible, that appeal to as many senses as possible, then students immersed in a variety of materials is a necessity. With good materials and the encouragement of a sensitive teacher, students can take some of the responsibility for their own learning.

To support this District philosophy is the mission of our Instructional Materials Processing Center. Since its birth five years ago, the Center has become known throughout the district as the IMP Center and its staff are called the "IMPS".

I.M.P.C. is located in the basement of our Arcadia High School in a space which was originally designed to be a bomb shelter. Because no federal funds were used in the development of the Center, the approximately 4,000 square foot bomb shelter was the obvious answer.

The goal of I.M.P.C. is to build and deliver the "payload", whatever it may be, to the teachers and children in the proper condition at the proper time. I.M.P.C. serves approximately 13,500 students in 13 elementary, 2 junior high, 2 senior high schools and 1 junior-senior high school complex.

Organizationally, I.M.P.C. is a part of the District Instruction Office and the I.M. P.C. Supervisor is directly responsible to the Assistant Superintendent for Instruction. Because district programs are identified and coordinated from the Instruction Office in conjunction with teachers, it is most important to note that I.M.P.C. is an extension of that office. There is constant and vibrant communication between the curriculum area managers and the Supervisor of I.M.P.C.

The I.M.P. Center staff is by definition of their roles a differentiated one. In addition to the Supervisor, there are two other professional staff members. One is a librarian and the other is a science teacher. There is a secretary, five clerk typists, a shipping clerk and a materials processor. Student and parent volunteers also work on a regular part-time basis.

These people are the key to providing many various services and materials for district programs. One division of I.M.P.C. provides elementary science kits to all youngsters in the district. These kits are based on the nationally known program called E.S.S. (Elementary Science Study). This program was developed by a highly skilled group of educators, scientists and businessmen at the Educational Development Center in Newton, Mass. Presently, we have over 700 E.S.S. kits of different units. The kits are built and refurbished at the Center which is a great cost cutting method as compared to purchasing all the kits commercially. Some of the E.S.S. units include: Ice Cubes, Mystery Powders, Batteries and Bulbs, Structures, Mobiles and Balancing. In each unit the student learns basic science concepts through confronting materials in a systematic way.

Also, all film requests are filled or co-ordinated from I.M.P.C. We maintain a 500 print library and also secure films for teachers from various rental sources. Hopefully this service allows the teacher to use a film without the need of a lot of time consuming details on his part. With respect to rental requests we locate a vendor, write for the confirmation, accept the responsibility for film delivery to the teacher and back to the rental source. All details regarding payment for the rental are handled by "I.M.P.S." too. Film courier service is provided to the schools on a 24 hour basis. The deliveries are made by our own A.V. couriers. By housing the films in a central location and having the services of a daily courier service, it is possible to show any given film in three different schools within a week.

I.M.P.C. allows the School District to draw more return for each tax dollar spent. Through the rotation of many materials among the schools the quantities needed to support district programs are greatly reduced. For example, we own enough classroom sets of a fifth grade social studies program called Man: A Course of Study to stock seven schools. However, these classroom sets are sufficient to support the program in 13 elementary schools by rotating and rebuilding the kits.

The library materials processing division of I.M.P.C. is believed to also cut costs as compared to commercial processing. All library materials for the District are received, cataloged and processed at I.M.P.C. A master file of all the materials which have been processed is kept up to date. These cards indicate which schools have which materials. These master cards also eliminate the need to type a new master for additional copies of any given item which requires processing in the future.

Library materials are available to the schools on a priority basis. That is, those materials related to topics being taught in October can be processed prior to materials which might support units of study which are taught in the spring. Librarians in need of material on a priority basis make their wishes known to us on the standard I.M.P.C. Request Form.

Additional savings are realized through the coordination of all cassette duplication requests. One master item is purchased and then copies can be dubbed from it for other schools. A master cassette library is maintained at the Center in order to replace damaged or lost copies. Cassettes have been gound valuable for use in reading instruction. We have developed several listen as you read type programs. They are also valuable in skill courses such as Foreign Language and Business Education. Because not all cassettes come from the vendor properly constructed for our particular needs, changes are sometimes made. For instance, many cassettes have to be electronically pulsed in order to activate the filmstrip in an automatic filmstrip projector. We have a machine which does this. To turn out large quantities of cassettes, the high speed cassette duplicator is used. It will produce four hours of listening in four minutes. The use of audio cassettes in the classroom is one more attempt to individualize learning.

I.M.P.C. has been responsive to the needs of teachers and students on a program basis. Visual Perception materials which support the Visual Perception reading readiness program are provided. Multi-media Social Studies kits, including cassettes, filmstrips, slides, films, pictures, transparencies and realia, are provided.

But for all this to happen, described today, requires a team effort. It demands interrelated action of many people working as a system. The daily courier who transports films and mail must care. Kit delivery personnel must be reliable. Building instructional leaders must be "tuned in" to the pay load and responsible for its proper use. Even the Custodian has to share in the commitment.

We, at Greece Central, believe we are headed in the right direction toward the goal of relevant and meaningful instruction. We share our progress with you only so that you might challenge us. There is much yet to be done. The fact that we have been selected as the suburban Redesign School District by the State Education Department should force us to do better.

Finally, let us invite you to visit our District and question our philosophy. If you desire further information regarding the Instructional Materials Processing Center or the District in general, contact Richard C. Edgett, English Village School Elementary Principal or Douglass E. Cunningham, Supervisor of the Instructional Materials Processing Center.

DEVELOPMENT PROCESS FOR PRODUCING MULTIMEDIAS
SELF-INSTRUCTIONAL STUDY UNITS

by Charles M. Bidwell
Judith A. Trufant

PURPOSE

The purpose of this study unit is to help you learn the major phases, steps and tasks employed by this project staff in the dvelopment of a multimedia self-instructional study unit.

OBJECTIVES

Terminal Objectives:

Upon completion of this study unit you will be able to describe the process used by this project staff to develop a multimedia self-instructional study unit.

Contributory Objectives:

In order to fulfill the terminal objectives you will be able to:

- name in order the four major phases of the development process,
- identify the steps which are carried out in each phase, given the steps of each phase arrange them in the order in which they are carried out, and
- describe verbally or in writing at least one task that is carried out in each step.

Directions for Tape-Slide Series

1. Your study unit should be equipped with

   Student guide
   Audio tape
   Carousel tray containing 41 slides

   If any of your equipment is missing or non functioning or if you have any questions seek assistance from the study carrel assistant.

2. The audio tape and numbered slides have been sequenced so that each time you hear a tone on the tape you should advance to the next slide.

3. Throughout this unit you will be instructed to turn the tape recorder control to STOP so that you can refer to this student guide.

4. Material presented in this student guide will help you remember and apply what you are learning as you go along. Responses may be written in your student guide and you may want to make some notes for later study and review.

5. When you have completed the tape-slide series obtain a post-study measurement from the study carrel assistant.

TASKS carried out in each step of EVALUATE-REVISE

1. Preview unit with an evaluatory group.

   Project staff and faculty indicate more effective ways of developing content, instructional strategies and sequencing.

2. Field test entire unit.

   Students indicate more effective ways of developing content, instructional strategies and sequencing.

3. Distribute for learner utilization.

   Make copies of study unit available in study carrels.
   Students make written evaluation of each study unit they use.
   Meet with small groups of students for informal evaluation.

4. Validate student achievement.

   Compare student responses on post-study measurements with standards of stated objectives.

5. Revise study unit.

   Revise according to results of previous steps of evaluation phase.

GLOSSARY

Component - a part of the whole unit that belongs to a medium and/or a separate time sequence, e.g. audio-taped narration, series of slides, activity #1, response sheet, activity #2, film, etc.

Criterion - a standard; the means by which an alternative is chosen or an activity is measured.

Entry level performance - the level of performance the student brings with him that is relevant to the course requirements.

Evaluation - appraisal of information for the purpose of interpreting its meaning and the rationality of its content. (Compare with Validation)

Evaluatory group - production personnel, instructors and content specialist who view a complete unit and make suggestions for increasing the effectiveness, clarity, and accuracy of the unit.

Feedback - the sub-system function that compares output with a criterion.

Field test - a trial use of the material to observe user reactions and responses before final revisions are made or approval is given. Components may be field tested before the whole unit is field tested.

Instruction - a series of procedures and events designed to produce learning of specified and measurable objectives.

Instructional technology - a set of principles and procedures used to analyze instruction, design instruction, instruct and provide quality control.

Interaction instruction - instruction in which the student is required to respond frequently.

Interim validation - temporary measurement which aids the student in assessing his progress in attaining the terminal performance objectives.

Multimedia - employing or involving more than one sensory channel or medium of communication.

audiotape + projected visual
+ +
printed matter + laboratory activity

Validation - the aspect of developmental testing that assures that the student has achieved the instructional intent of the objectives. A unit with a poor evaluation may still be valid.

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AUDIOVISUAL MATERIALS CAN BE USED IN MAKING READING A REWARDING EXPERIENCE

by Richard Decker
Audio-Visual Building Coordinator
Saratoga Springs, New York

The Summer Reading Clinic was established to meet the greatest educational need of the Saratoga Springs City School District, elementary reading.

The Clinic was developed with two beliefs:

1. A child can improve his reading if placed in special learning environment with individual attention.
2. His parents are involved in his reading problem in a program specifically tailored to his abilities.

The basic goal was to provide an individual reading program so that each child advanced at a pace that best suited him. To establish a special learning curriculum and prepare for the program, an A-V specialist was determined a necessary member of the team. His function was to bring to the clinic every available resource in the entire school district and community as well as to instruct each teacher in the use of the many machines available.

The A-V specialist and his aides were trained students from our Junior High A-V Center and worked with the teachers in the use of the equipment. The language master, the Hoffman projector with its phonics programs, the video tape recorder, which was used not only for micro teaching, but to help each youngster with his reading problem - he could hear and see himself. The aides also helped teachers in working with children in addition to becoming models for these youngsters to follow.

To give you some insight into the clinic, let me review for you our procedures: A child was recommended by the classroom teacher, remedial reading teacher, or administrator. Since capacity was limited, the child with the greatest disadvantage was considered first. Since the program was voluntary, parents were asked for their permission to have their child participate. In addition, they were encouraged to help the child as he participated in the clinic.

As mentioned, the A-V specialist's role is to bring materials and resources to the clinic. An attempt was also made to use new materials with each child because newness is always interesting.

Since reading assistance was the primary purpose of the clinic, a reading schedule was developed providing that each class be divided into three reading groups. A regular reading group of seven students each remained with the teacher leading instruction, while the other two groups enjoyed library, music, art, or physical education. The very nature of this schedule mandated children had to travel from class to class. A concern for this fresh and unusual approach proved needless as the children adapted well. Perhaps this fresh approach helped sell the Summer Reading Clinic to the youngsters. The teachers for this clinic had to be not only talented but also constantly and continually patient with each child to provide a generally sympathetic and friendly attitude. All children can distinguish between real friendliness and interest. This is especiall true of a child having difficulty in learning.

The value of daily attendance was stressed. To encourage youngsters to attain perfect attendance, an honor roll was placed in those rooms where the youngsters attained this goal. Although individual reading was the goal of the clinic, art, music, library, and physical education were an important ingredient in attracting youngsters daily.

The food experiences provided, as you can see, such tasty items as strawberry shortcake. The cafeteria became known as "our restaurant" and most acted accordingly. The reading clinic was primarily established to solve the reading problems of each child, but many of the children experiencing reading problems have already developed a lack of self-confidence which, of course, is vital to achieving success in any venture. The attitude towards school suffers as school becomes identified with reading problems. To bring about a change in self-image and hopefully a change in attitude towards school, the A-V specialist arranged for various activities and exhibits which were designed to make school not only educational but fun.

Here you see a horsemanship demonstration in which the children were shown training and the various equipment used in training these horses. Another exhibit was a dog training demonstration Located in our community is a dance school and they provided a modern dance performance at the

clinic. And, of course, Saratoga is known for the Saratoga Performing Arts Center and here Mr. Ronald Coralian, actor in Fiddler on the Roof, discussed with the clinic children, the importance of reading to an actor.

Our local fire department presented a demonstration and exhibited fire truck equipment in use. The police department did likewise. Our coordinator arranged for a field trip to Fort William Henry located in Lake George, New York. A stock car driver brought his stock car to school and as you can see, the youngsters were quite enthusiastic. They boarded the bus again, and this time for another well-known sight in our community, the Saratoga Performing Arts Center, where they sat through a dress rehearsal. In addition, Mr. Raymond Messler and three young ladies from the New York City Ballet Company came to the clinic, demonstrating ballet movements, steps and gave the children an opportunity to also try the ballet steps. We visited the Saratoga Raceway, a trotting track in our community. On the last day of the clinic, as promised, the children visited Storytown, a fascinating center near Lake George. Perhaps for the first time some children could not wait to come to school.

To give you some insight into the success of the program, let me point out that one youngster who missed 61 days of school during the year, did not miss one day of the clinic. A mother reported to us that her child was very happy and pleased. For the first time in a school career, there was one child who wanted to stay in school all day even though the clinic was only half a day. We had set attendance as one of our goals figuring 75% was ideal. We achieved a goal of 94.7% average daily attendance. The local newspapers, the Capitol District, and the Albany Times Union all featured the Summer Reading Clinic and various activities, exhibitions, materials and equipment which were part of the clinic.

The results of the two standard tests indicated there was a general upward shift of the children's reading levels during this short period of intensive attention. There were other criteria to indicate that it had been successful. But the real success was due to the team effort of all involved in the clinic, and needless to say, the use of all the Audio-Visual materials with the children.

SUMMER READING CLINIC NEWS STORY

A Summer Reading Clinic for children in grades 1-4 was conducted in the Saratoga Springs City School District under Title I funds. Although a summer reading program in and of itself is not unusual, it is somewhat unusual for this grade level.

The unusual aspect of this Clinic is found in the activities of the program. Each morning (9:00 A.M. - 12:00 noon), students report to their Reading Teacher with 21 the maximum enrollment. The teacher assigns each to one of three reading groups while she works with one reading group of 7 students, the other 14 students are "on the road." These other two groups are either in Physical Education (daily) or in Art, Music, or Library (rotate).

The Physical Education period is geared toward body coordination, as some children with reading programs have difficulty with balance, left-right confusion, and body awareness. The Art period is really an Arts and Crafts period, in which the students can make items such as papermache monsters, gold medallions, metal crafts, etc. The Library period was designed to provide reinforcements in the skills taught in reading. The librarian used the many audio-visual materials to provide further interest in reading. The Music class gave each youngster an opportunity to "play" an instrument. A large variety of musical instruments were housed in this classroom for student experiences.

In addition, each morning a food-experience was provided through a morning snack. Although the snack was nutritional in purpose, it also provided each student with new foods or familiar foods in a new form (i.e. some children had never experienced strawberry shortcake).

The Reading Program was based on the premise that each child experiencing difficulty in reading, in a regular school program, can improve his reading skills if he is provided with a special learning environment. To establish this environment or educational climate ---

1. The teachers were considered on the basis of their talents as teachers and their ability to develop this learning climate. These teachers had to be consistently and continuously patient with each child and to provide a genuinely sympathetic and friendly attitude. All children can distinguish real friendliness and interest and this is especially true of the child having difficulty in learning.

2. Every available resource in the school district (in fact the community) was considered or used. An attempt was made to use new materials with each child because newness is always interesting. Perhaps even more important is the fact that sometimes familiar materials bring to mind past defeats. The new materials presented a new opportunity to succeed.

3. Field trips were planned which were educational but also offered the incentive to attend the Clinic . . . instead of enjoying vacation time. The second and fourth Fridays provided trips to Fort William Henry and Storytown. Since the community offers a variety of cultural and recreational opportunities, they were included in afternoon trips -- Saratoga Raceway (tour of the racing plants), Malta Speedway (stock car raceway), and the Saratoga Performing Arts Center. The SPAC personnel opened the door to this Clinic by allowing the A-V Coordinator to film and video-tape performances and interview performers. They also provided guests to visit the Clinic. The A-V Coordinator also served as Program Director for the Clinic and arranged for performances at the school on Horsemanship (prize winning Morgan and Appaloosa) and Dogs (training, etc.).

4. The pupil-teacher ratio in the reading groups was small (7:1) to improve each child's chance for success. The traditional classroom arrangement had proven unsuccessful for these children, in the Summer Clinic he found himself sharing a teacher with only six or seven others.

5. To bring about success, the following specialists were part of the Clinic team - psychologist, social worker, librarian, attendance counselor, Nurse-Teacher and A-V Specialist These people, coupled with the well-trained teachers and the active participation of parents, working together brought about the opportunity for success in this Clinic.

6. Parent involvement was an integral part of the success. Each parent was contacted during the first week to seek their support for the Clinic and also to encourage their child to succeed. A video-tape recorder was also used to show parents the activities of the classroom reading.

A special enthusiasm generated among the staff and the students. In fact, parents reported children wanted to come to school, instead of the parental concern that attendance would be a problem. By the end of the first week, attendance had reached 97%.

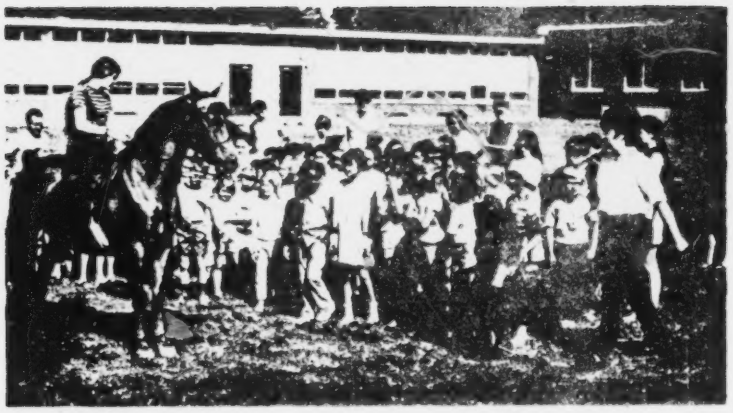
All involved in the Clinic -- Teachers, Neighborhood Youth Corps Aides, SPAC personnel, students and parents -- indicated that the Clinic was exciting and unique.

AUDIO-VISUAL EQUIPMENT USED IN SUMMER PROGRAM

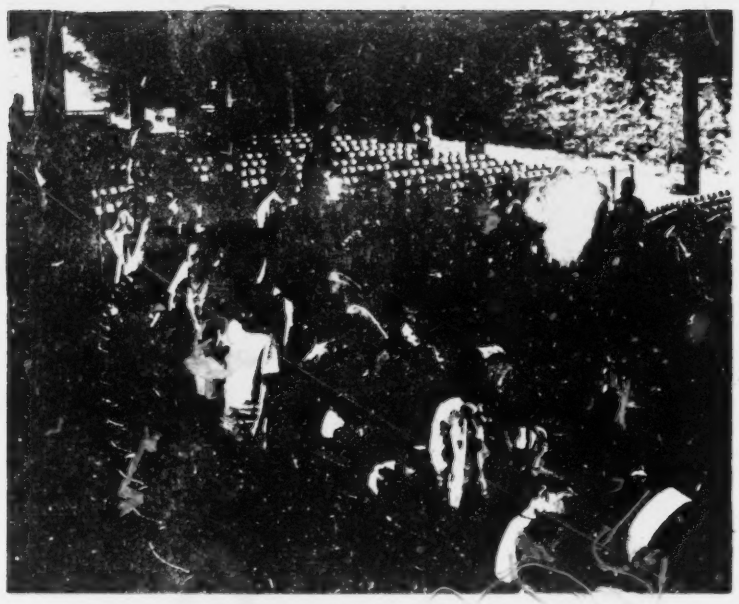
1. SONY Video Equipment
2. Hoffman Projectors
3. Bell & Howell Language Masters
4. Tachistoscope
5. Controlled Readers
6. Cassette Tape Recorders
7. Overhead Projectors
8. Tape Recorders
9. Film Strip Projectors
10. Listening Stations
11. 35mm Camera

Exhibitors in room:

1. Ray Supply, Glens Falls, New York
2. Rud Clark Co., Inc., Syracuse, New York
3. A-V Sales & Service, Albany, New York

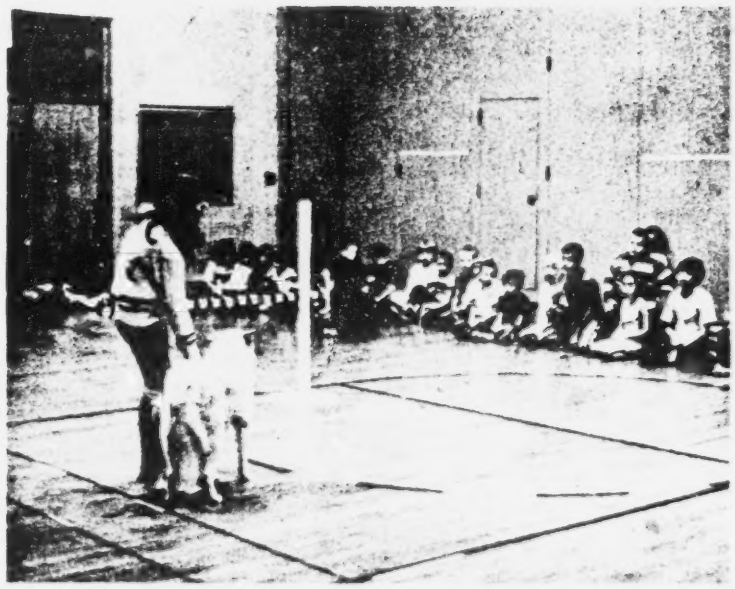


Horsemanship Demonstrated



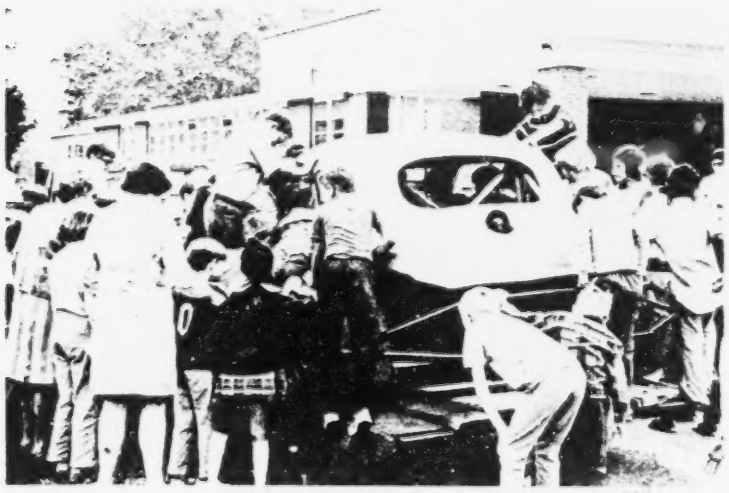
S.P.A.C. Visited

Fire Truck Inspection



Dog Training Demonstrated

Police Work Explained



A Stock Car Examined

Field Trip to Fort William Henry

Arts and Crafts Develop Interest

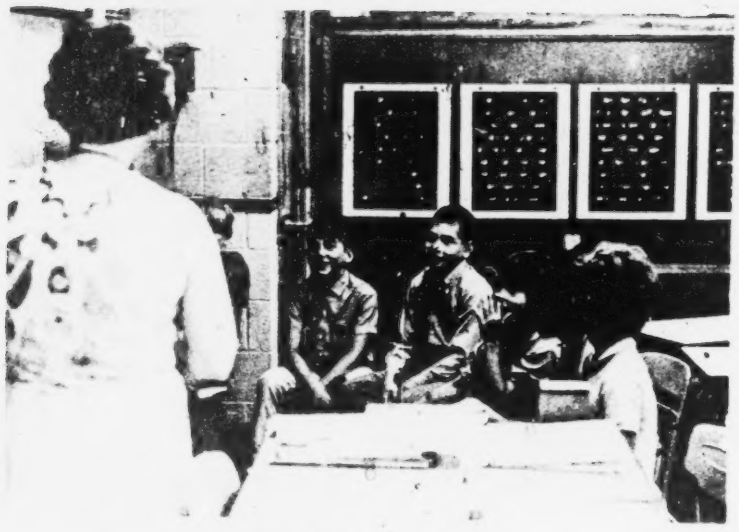
There Were Library Periods

Coordination Through Physical Education

Music Provides a Chance to "Play" an Instrument

All Enjoy Snack Time

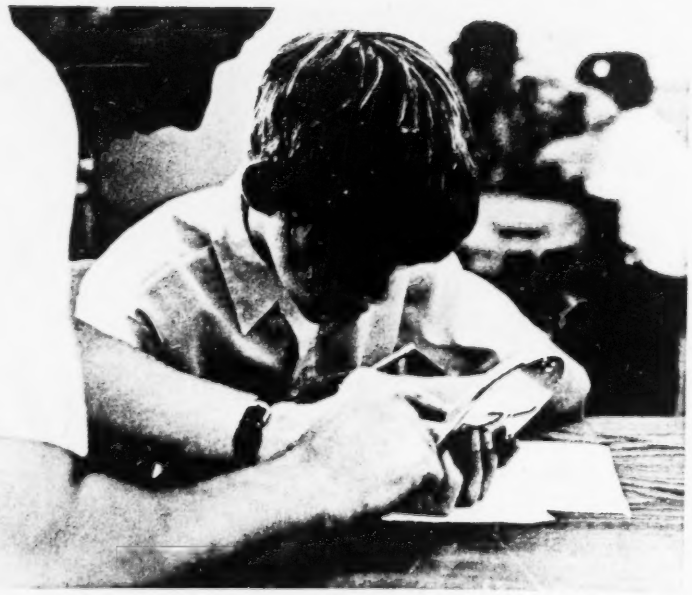
This Bulletin Board Tells the Story



Reading in Small Groups

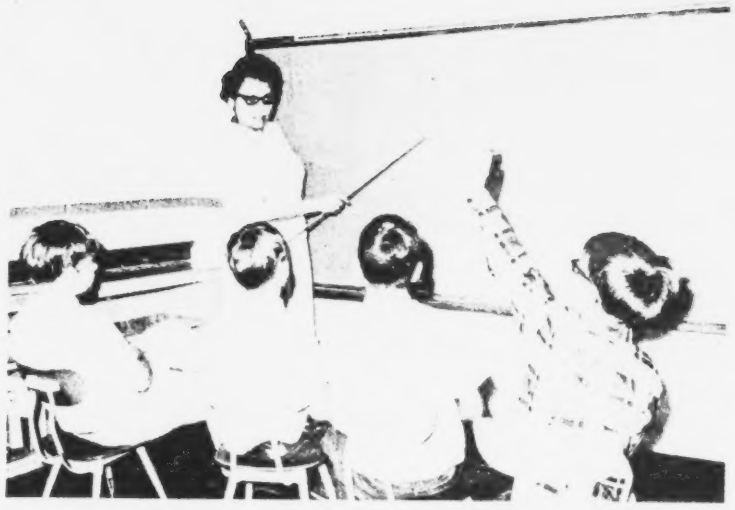
"Let's All Say . . ."

Learning Is Individual



All Received Individual Help

Time to Pass to the Next Class

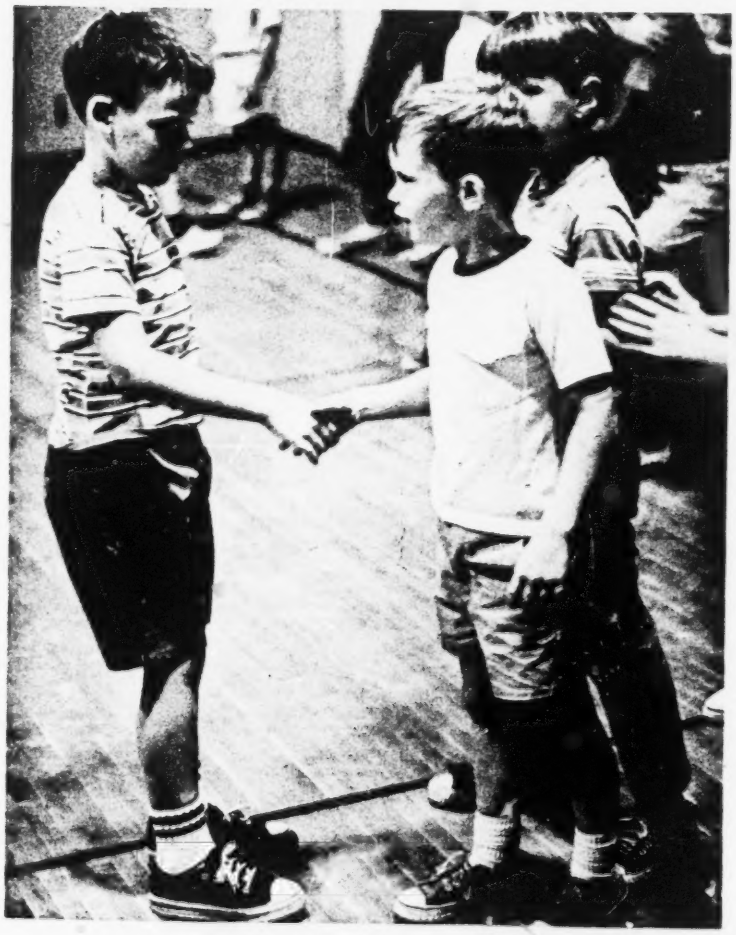


Everyone Has a Turn

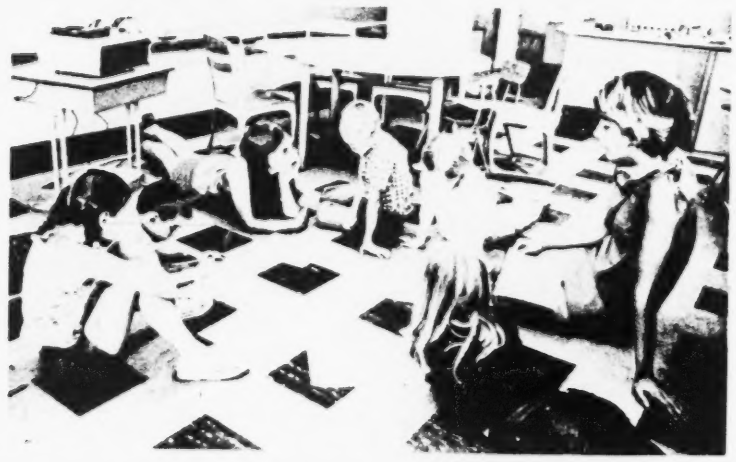
The Reading Machinery Brought Interest

Like Watching Television

Reading Gives Pleasure



Friendships Were Made



Teachers and Students Work Together

ACTION RESEARCH LOOKS AT INNOVATION

by David M. Jenkins
Kettering Project
Colgate University
Hamilton, New York

In 1966, Colgate University was awarded a grant from the Charles F. Kettering Foundation to study the impact of innovation on education. This award was used to support the Regional College-Schools Research and Development Program, which is part of the Department of Education at the University. The three year grant ran from 1967 to 1970.

The Charles F. Kettering Foundation is best known in educational circles for its sponsorship of the Institute for Development of Educational Activities or IDEA. IDEA is a non-profit corporation engaged in educational improvement. The Kettering Project at Colgate is not part of IDEA, although its goals are similar.

The Kettering Project is an action research program that was conducted in selected public secondary schools in the region surrounding the University. Action research in this context means that the project tried to influence the population that it was examining. First a pre-measure of a selected population was obtained to determine what opinions and attitudes they had about educational innovation. Teachers, administrators, school boards, parents, and students were included in the sample. This was followed by the action phase of the project where various innovations were introduced into the schools. A post-measure of the same population followed to determine what changes, if any, had taken place.

The five objectives of the project were as follows:

1. Measurement of actual changes and change in attitudes.
2. Assessment of action program.
3. Measurement and identification of forces that inhibit or enhance the implementation of innovations.
4. Measurement of the educational effectiveness of the innovations which are introduced.
5. Development of a research design which could be used in other regions of the nation.

Twenty-seven experimental schools were selected in a five county region surrounding the University. All of these schools were public secondary schools and varied from large urban high schools to small rural central schools. The main criteria for selection was a willingness of the schools to participate in the study. After the schools were selected, a pre-measure of the various populations were obtained.

The action phase of the project began with the call for proposals from the experimental schools. Because the project had certain staff competencies, we looked for innovative proposals in the areas of English, social studies, mathematics, science and administrative procedures. The project's definition of innovation was "some practice that was new to that particular school, but not necessarily to education as a whole." In most cases, these proposals came from individual teachers, although several groups of teachers submitted proposals, as did several administrators. The proposals were screened, and final selection was based upon the quality of the proposal, administrative support, qualifications of the prospective innovator and ability of the project to finance and support the innovation.

Thirty-one innovations were selected and implemented in the twenty-seven experimental schools. These were funded in whole or in part by the project. Innovators were given a free hand in ordering hardware and software, up to budget restrictions, to implement the innovation.

Five resource teachers were hired for one year to work on a consulting basis with the various innovators. During the summer of 1968, the selected innovators attended an individualized training session at the University. Topics covered included operation of audio-visual equipment, production of teaching materials, effective design and utilization of media, and curriculum design. These sessions were also used to familiarize the resource teachers with the innovative projects, and help innovators select the educational hardware and software that they were going to use.

During the school year 1968-1969, the action phase of the project was in full swing. Effective implementation of the innovation required a great deal of time and effort on the part of the innovators. The resource teachers made weekly contacts with the innovators in their schools to assist them in any way possible. Some additional money was available to assist the innovator

where it was deemed to be beneficial. Some examples of innovations tried:

1. One social studies teacher used Bales' "Interaction Process Analysis" in a task-oriented situation for understanding and improving the function of work groups in the classroom. He also explored the use of cassette tape recorders in obtaining primary and secondary sources of information for use in the classroom.

2. A science teacher explored the uses of the video tape recorder in his biology lab courses for testing, experimentation, and demonstration. An experiment was conducted that showed no significant difference between presenting a lesson on video tape and the students learning from a lab manual.

3. A mathematics teacher used an electronic calculator to enrich the math program. As a result of the success of the calculator, more sophisticated equipment has been purchased, including a time-sharing terminal connected to a large computer.

4. An English teacher taught composition through the use of cassette tape recorders. Each student had his own recorder that could be taken home. Some students recorded their research for later use, some dictated compositions, then corrected them on tape before writing them out, some conducted interviews, while others used them to practice public speaking. The teacher tape recorded comments on the students writing so they could play them back.

5. A social studies teacher taught a three-month unit on "Race Relations in America" in a 12th grade elective course. Extensive use of media was used, such as video tapes, cassette tapes, filmstrips, records, and the like.

6. An English teacher conducted a modified Humanities course for the non-college bound student, using a student-centered and multi-media approach to learning. A high quality stereo record player was found to be indispensible in the classroom for motivating the student with their own music.

Several methods of disseminating information about the innovations were used. A newsletter and several brochures were published and sent to members of the communities and schools involved. The schools were often visited with both formal and informal talks to members of the faculties. Several multi-media presentations were prepared illustrating particular innovations so area teachers and administrators could obtain more information on the particular technique that was used.

Implications for media programs:

1. Every school has resourceful teachers who, when given the proper support, are capable of innovative endeavors.

2. Selection of resources, such as audio-visual equipment, should be carefully considered to fit the needs of the teacher and be flexible so modifications in techniques and curriculum is possible.

3. It is difficult to select curriculum materials unless someone can specify the objectives of the instructional sequence. The media specialist may need to do this if the teacher is unable to do so.

4. Evaluation of mediated instructional sequences are difficult unless the outcomes are expressed in measurable behavioral terms.

5. Students should be involved as much as possible in all phases of the innovation.

6. Let the ideas come from the teachers, as ownership is the key to success. Many methods can be used to give the teachers ideas.

7. Some innovations diffuse more rapidly than others. This is due to their adaptability to many different curricula.

8. Proper training in the use of the innovation, as well as follow-up consultant help, is important to success.

TRAVELING FROM SOUND TO SOUND:
A MULTIMEDIA PRESENTATION RELATING SCIENCE, MUSIC AND LANGUAGE ARTS

by Nancy Pulsifer
Kay Whidden and
Evelyn Weir
Harpswell, Maine

Greetings and introduction to Semantics of Sound.

"Sound", the sound of music, the sound of the sea

"Traveling from Sound to Sound"

Explanation of sound waves

"A sound is a long passage of water"

"Sound to ascertain the depth"

"Mark Twain means two fathoms"

"Bell buoys"

Tape of bell buoys

Imitation of bell buoy sound on vibes

Taped whale and porpoise sonar

"Jack was Every Inch a Sailor"
Newfoundland whaling song

Explain "Sonar" as sound navigation and ranging

Compare natural sonar with man made sonar

Demonstrate use of fathometer recorder

Taped bat sonar

"Twinkle, Twinkle Little Bat"

"Sonar Song"

Discuss silence

Simon & Garfunkel's "Sound of Silence"

"Traveling from Sound to Sound"

CLASSROOM COMMUNICATION: TELECTURE

by Donald Kruck and
Arnold D. Tversky
Dover Public Schools
Dover, New Jersey

Perhaps one of the most effective ways to bring outstanding resource people into the classroom is via the Telecture. Imagine your students having opportunities to discuss political issues with statesmen, literature with great writers, legal questions with Supreme Court justices, and other topics with well-known authorities in their particular fields. Yet, this type of educational communication has been virtually overlooked by administrators, media specialists, and other individuals responsible for the improvement of instruction. Actually, all that is necessary is a little imagination, some careful planning, and the money to pay the phone bill at the end of the month.

I. What is Telecture?

A Telecture can best be described as a pre-arranged phone call from the classroom to a resource person, students having the opportunity to ask questions and to make comments with responses coming back amplified. Several microphones and speakers are placed at appropriate locations in the room, making it possible for all to participate in the lesson. The classroom is equipped with a telephone outlet, a special amplifier unit provided by the phone company and a telephone which is used in the conventional manner. Although a private line is desirable the school number can be used If there are several lines in the building, the one most likely to be available during the course of the school day might be best for the program.

II. The Dover Telecture Program

The Dover Telecture began at the start of the 1969 school year when Audiovisual Director Donald Kruck came into the office to seek administrative support in setting up a demonstration telecture in our high school. His plan was to show the great potential of this teaching tool to administrators, board members, department chairmen and teachers, always keeping in mind the many values to be gained by the students themselves. Together we worked with the social studies department in scheduling a senior class, one taught by a young instructor who shared our enthusiasm and one who was eager to employ media techniques whenever feasible.

Professor Mel Tumin of Princeton University and Rabbi David Levy of Morristown agreed to cooperate in this initial venture, sharing their thoughts on some of the crucial issues of the day - student protest, racial tension, drug abuse, and other similar topics. In preparing for the session our students read Tumin's articles relating to American education today, challenging him on items related to non-grading and college entrance requirements. Rabbi Levy's involvement in community affairs was studied prior to the phone call and questions directed to him dealt with housing, slums, patriotism, and problems confronting today's youth. When the lesson was over one student remarked "It's unreal." Others seemed turned on by this experience. At this point we knew that the Dover Telecture Program was to become a vital part of our resource center operation.

Our main objective was the improvement of education through the use of the Telecture by having outside resource speakers participate in the classroom lesson. Given these opportunities to speak with authorities in various fields, our high school students demonstrated greater interest in classroom discussion and were able to develop research skills in preparing questions.

In getting the program started it was necessary to assist teachers in finding resource people. Phone calls were made and letters were written during the early stages so that the audiovisual director could satisfy requests from staff members and students. After studying a short stor unit, a ninth grade English teacher arranged to have her class speak with Jesse Stuart, who was at his home in Greenup, Kentucky, at the time. On another occasion, a group of seniors interested in ecology discussed with Pete Seeger some of the problems related to waste and pollution. Recently Pearl Buck agreed to join our Telecture file and has been scheduled for a program with a high school junior class.

In addition to regular classroom use the Telecture has been a valuable instrument in the following ways:

1. Bedside students have been able to participate in classroom activities.

2. In-service education for small groups of professionals has been included in the program

3. School secretaries have used the Telecture to review telephone and office procedures.

4. The Child Study Team has used the Telecture to seek authoritative answers to new state department rules and regulations pertaining to special education.

III. Mechanics of the Program

There are many steps that must be taken before the program can operate smoothly. These include (a) developing a resource file, (b) establishing procedures to be followed by staff members, (c) planning for staff inservice activities, (d) involving students in selecting and evaluating speakers, (e) setting up a plan for movement of equipment, and (f) determining costs for operating the program.

In developing a resource file, we decided to involve one of the community's active organizations, the Dover Junior Women's Club. These ladies were quick to respond to our plea for help, turning the project over to its educational committee chairman. After working diligently for several months writing, phoning, and seeking information through third parties, this group submitted a list of more than 100 names to the audiovisual director. On this list were men and women from all subject areas, from all walks of life, from all parts of the country. This information became part of the new resource materials book given to teachers at the start of the school year.

Teachers were now faced with the problem of having to go about getting a resource speaker and how to actually conduct the lesson. Procedures had to be established and "on the job" training had to be planned. The audiovisual director and selected teachers were instrumental in developing a request form (See Chart I) for Telecture use. Also, the audiovisual director met with the various departments in the high school to discuss techniques and mechanics of classroom utilization. Both phases seemed to prove effective as requests for Telecture programs began to be received at the Dover Instructional Resource Center. (At present there is an average of one per week).

Students contribute to the program by suggesting names of prospective speakers, by preparing questions for the Telecture, and by helping the teacher evaluate the program. Quite often research assignments are designed to give more information about a speaker and his works.

Student technicians in the resource center are trained for setting up and for moving equipment. These workers are frequently given the job of taping the lecture if the speaker consents. Then tapes are made into cassettes, placed on file, recorded in the resource book, and ready for media center use by students and teachers.

Finally the money factor must be determined, these charges appearing on the school's regular telephone bill. The cost of installation is $35.00 per unit which includes one jack. The cost of the second jack is $10.00, and each additional jack is $7.50. Service charges amount to $25.00 per month per unit. In addition, the price of the call must be considered, a rather expensive matter on a half-hour New Jersey to California call, but a no cost item if the local police chief or lawyer spends unlimited time talking to our students.

IV. Evaluation

After the Telecture has been presented the instructor discusses with his students the strengths and weaknesses of the lesson, putting their comments on the Telecture Request Form. This information is returned to the resource center for future reference. This gives interested teachers a brief summary of the resource speaker's area of coverage as well as his overall effectiveness as a Telecture guest.

Although evaluation is subjective for the most part, there are times when instructors are able to measure effectiveness in an objective manner. For example, the business law teacher tested her pupils on cases related to insurance and taxes, finding that all of the class passed the exam, the range of correct response being from 70% to 100%. These youngsters had experienced a full period Telecture session with one of the attorneys in the resource file.

A letter of appreciation is sent from the members of the participating class to the resource person through the Dover Instructional Resource Center Office. Occasionally the audiovisual director and/or the assistant superintendent send personal letters to thank individuals for their assistance in bringing a new and interesting approach to learning. Informal conversations with our students tell us that they are anxious to attend class when a Telecture is scheduled.

The Dover Telecture Program has demonstrated that something we now take for granted - the telephone - can become one of the most significant factors in motivating students by having them speak with people whom they may never see or meet in their lifetime. In a matter of seconds we

can reach individuals who may be thousands of miles away. During our short experience not a single request for help has been refused. In most cases agents are eager to give us ways to reach authors, entertainers, and other figures of national prominence.

Plans for the future include widening the range of subject area utilization, extending the program to our middle school, and scheduling bi-lingual Telectures to serve our high Spanish speaking student population as well as to give practice to those in advanced foreign language classes. Teachers have been cooperative in getting the program "off the ground" by experimenting with the Telecture and by telling others in the building about their successful experiences. It is quite apparent that the program will be part of the curriculum for the 70's in Dover, New Jersey.

CHART I

Topic Title_____

TELECTURE REQUEST FORM

Teacher_____

Date of Request_____

Name of Speaker_____

Destination of Call_____

Purpose of Call (Specific Object)

Preliminary Activities

1.

2.

3.

Follow-up Activities

1.

2.

3.

Date and Time of Call

Approximate Time - Length of Call

Supplementary Information (include copies of any correspondence)

Approval Granted

1. Dept. Chairman_____ 3. E. T. Director_____

2. Principal_____ 4. Ass't. Supt._____

Comments:

FILM MAKING: MEDIEVAL MYSTERY

by William D. Podmore
East Side School
Central School District #2
Cold Spring Harbor, N. Y.

Given a little encouragement and the opportunity, elementary and secondary students can create wonders through the medium of the motion picture. Producing a film gives students the opportunity to pursue knowledge on their own.

Making our movie broadened the class's education in many ways. First they learned how to make a film which few children have the opportunity to do. They looked into every phase: from the planning to actual filming. Besides developing the skills of film production, the class learned to take on a job and see it through. The problems they had to solve did much to bring the class together as a group.

As our planning progressed, we became involved with research, writing, background music, model building, costuming, taping, animation, etc., and found utilization of school and community resources more than met our requirements. Except for one outside location all our sets involved school property.

From my research into the techniques of motion picture photography, I found the most important factor to keep in mind is motion. Movement is basic to successful motion pictures. This does not mean just someone or something moving. The ideas of the film must move and show development.

Film making stimulates students' talents and imagination and generates a tremendous amount of energy and hard work. The outcome is not just a motion picture, but a learning experience the class will never forget.

FACULTY - STUDENT NEGOTIATIONS ON A TROUBLED CAMPUS*

by Ruth Goldstein
Craig G. Allen
William Hanks
Hunter College, New York

Student unrest at Hunter College last spring began over a single issue. It then mushroomed into 34 demands, culminating in a takeover by the students of the elevators in our 16 story building, which closed down the college.

The videotape I want to show you this morning was made by a student, Jay Colbe. Professor Hanks of the Communications Dept. who is here, along with Craig Allen of the TV Center, will later give a history of the events in the strike by bringing the class to the Television Center where together we teach a course in production. Each student is required to submit a project on

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* This presentation could not have been made without the very dedicated work of the Hunter College Television staff: Vivian Butler, Dunbar Fleming, Lynn McVeigh, Geoffrey Reynolds, and Anton Vlahovic.

videotape before the end of the semester. Jay Colbe's project was about the student unrest. Every time there was a happening at Hunter, Jay would be begging for equipment and he finally put together quite a production. We would not have time to show his complete tape which ran about 55 minutes, so I have edited a copy down to 15 minutes while trying to keep his point of view intact. (Turn on the tape)

You have just seen an example of the role the television center played during the strike. Actually we played two important roles. First we supplied equipment and instruction to the students who wished to cover the strike as their class projects.

The Center also videotaped crucial student Faculty negotiations and supplied Closed Circuit TV to the college in the following way:

When an appropriate negotiating committee was settled on and its members selected from among students and faculty, it was felt that negotiations should be made public, and particularly that everything should be out in the open, not behind closed doors. Because of the space problem in a one room setup containing 30 delegates and 30 alternates, and the possibility of constant interruption from a live audience which could hamper negotiations, the college's Television Center was called upon to set up closed circuit television from the conference room to be piped into the student lounges.

This happening took about 40 hours, over many days lasting into the early mornings. These tapes are not yet released. There are many amusing anecdotes we all can tell. I will only mention one here because of its innovative quality. At one point the People's Coalition walked out of the negotiations over an issue and evidently went to one of the student lounges to witness the proceedings over the closed circuit television. Soon after, a very important vote came up and the People's Coalition sent their vote by proxy. The question came up over Roberts Rules, whether it was permissible to accept this proxy vote, which would not have appeared had it not been on closed circuit. There are no Roberts Rules for television as yet.

Now Professor Hanks of the Dept. of Communications will give a short history of the strike.

Uses of TV-Center in Campus Conflict

On March 13 last year, I became a participant observer of a student movement which eventually shut down Hunter College. At an open meeting airing grievances against Hunter's School of General Studies, I quickly became convinced that most of the student grievances were legitimate, and I joined the students occupation of the Registrar's Office that evening and remained throughout the night. I took a back-pack video-tape with me. That was the beginning of the TV Centers' involvement in the crisis of last Spring. The end came in late May.

Originally, the TV Center has been a service to the teachers at Hunter, but events of the past year help raise some questions about when (if ever) it should aid student advocates who call for a revolution. Before dealing with those questions, we should briefly describe what happened last Spring.

Hunter's shut-down began with a mild protest against a proposed tuition-hike for the School of General Studies. Rallies by SGS students on March 17 and 18 ended in a late night sit-in in the Registrar's Office on the 18th. By the next morning day students joined forces, continued the occupation, and took over the Career Counseling and Placement Offices. In the afternoon, students took over the elevators, forcing President Wexler to close the school until the afternoon of the 19th, when Hunter's Faculty Council held open meetings to discuss student demands.

Several factions - - - members of the SGS Student Government, the day School Student Government, a group called the Third World Coalition, and some faculty members united behind three basic demands for reforms at Hunter. 1) Fifty percent student vote on policy-making bodies of the school (including students on committee hiring and firing teachers); 2) no tuition hike; 3) the opening of teaching slots to graduate students.

The Faculty Council was supposed to announce a decision on those issues by May 15. Students, gathered for a scheduled open faculty council meeting in the assembly hall on March 20, were informed that the meeting was cancelled. They then began to discuss their demands and tactics for enforcing them. The group voted to close the school on March 30, (later the date was changed to April 1). By March 30, following Spring vacation, no action on demands had been taken by the Faculty Council. The next day students rallied in the cafeteria, and the faculty in a special meeting defeated the motion to support the principle of 50% student representation. Students who had been admitted to this meeting expressed outrage.

On April 1, over 2,000 students met and voted to close the school. They again seized elevators. Police were summoned and peacefully evacuated the school. Police were to be called onto the campus several more times before the term ended. Meanwhile, throughout April many students and some faculty members boycotted regular classes. Repeated attempts of President Wexler to calm the school failed. On Friday, April 17, 11 students and two faculty members were arrested on charges of criminal trespass.

Earlier in April, President Wexler, after having spoken to large assemblages of students, had established a task force to implement student demands. Composed of representatives of all student and faculty factions, the committee negotiated on critical issues. By this time the demands had multiplied to a total of 34. Some of the more significant ones were:

1) a free day-care center for children of faculty and students.

2) elimination of profit-making in sale of books at the Hunter Bookstore.

3) inclusion of more Black and Puerto Rican students.

4) the elimination of tenure.

Fifty percent student representation proved to be the impasse. It was voted down. President Wexler directed the Task Force to come to agreement within 3 days -- and the elected student representatives walked out, effectifely suspending all negotiations. These negotiations beginning on April 11, and ending on April 17, were televised and video taped by consent of the Task Force. This taping was the major effort of the TV Center in the crisis. Student-cameramen, interns from the TV Center, spent many hours shooting the negotiations. Other students, myself, and Mrs. Goldstein recorded several of the more dramatic events in the crisis. The Task-Force resumed again in late April and guerilla tactics of some students continued until the Spring. The National Guard killing of Kent State students on May 4, further aroused the college and Hunter was closed again on May 4. This event, combined with Jackson State, the Spring March on Washington against President Nixon's Viet Nam and Cambodia policies, and the beating of students by construction workers on Wall Street created an atmosphere in which ordinary academic concerns seemed irrelevant. Hunter's Faculty Council closed the school for the remainder of the term, although some classes continued to meet at individual teachers' discretion.

Meanwhile the Task-Force continued to meet, and over the summer, in consultation with a neutral arbiter, worked out plans for a revised student-faculty government for Hunter College. That plan has been submitted to faculty and students for a vote, the results of which are still unknown as this report is made. Now that I have given a brief picture of last Spring's crisis, I think you can put some of the pieces of video tape together in perspective. If you can, it will probably be obvious to you that the student-produced tape you have just seen is anything but objective. Its point of view is clearly propagandistic and pro-student radical. Incidentally, it was shown at Hunter this fall during orientation sessions for new students. It was also shown at a weekend conference for faculty of the Dept. of Education. Both the fact that the tape was produced with the TV Center's equipment (some of it employed TV Center personnel) and the fact that it is an anti-administration propaganda piece raises a serious question: should the TV Center, a service department for the entire college, allow student advocates to further their cause by using the service? Is this a legitimate function of the TV Center? I have my own feelings as does Craig Allen, Director of the Center, and Ruth Goldstein who assists him. Probably you do too. First, Craig will state his position as the man in charge; then you and Mrs. Goldstein and I can react as time allows.

(Craig's position) - Quite simply, if you believe in freedom of speech, students should be provided with an opportunity to air their positions. And it is fair that faculty and administration use our equipment both for advocating and for providing information to the college. Our services should not be restricted to use only for instructional purposes. Also, students who are taking our courses and thus using our equipment and personnel must not be censored in terms of program content. We at the center should act as medium and not as advocate, just as broadcasters do. That is, we should attempt to be fair and balanced in allocating our equipment and help.

Students enrolled in our classes must have freedom to produce their own material. If that means propaganda - that is their privilege.

Craig Allen

Besides the TV use in negotiation, and the student TV recordings of the happenings at Hunter, we're interested in outreach of the many uses of video. We've had successes with our wide use of a Mobil Unit Facility for the whole City University, and we've set up a new Color TV studio which also has mobility, and we've been involved in Cable TV for wider distribution of educational material and wider spread of school community relations. Beyond that we've been breaking ground for Academic recognition of production as equal or superior to publication and for production royalties to Faculty which can surpass publication royalties. So whatever your questions may be, we'd like to try to answer them.

Bill Hanks

I won't respond to the expansion of this Hunter TV Center but to the issue of free speech. I think that Craig's position sounds reasonable, but that under pressure from the college administration, none of us <u>can</u> hold to it. The control which can and is exerted by President Wexler at Hunter College vis-a-vis the taped negotiations suggests that neither the TV Center nor a teacher like myself has free access to information already on tape. If we get into issues that really stir the college community, I fear that our TV Center will be controlled from above, and unlike the broadcaster who has to assume responsibility to its public, the TV Center is finally answerable only to the President and the board of education. It is a sad, but I think a true prediction, that once we get into the college wide dissemination of view-points on highly controversial issues, that the content of our video-taped programs will be influenced most by those who have closest access to the money. In this regard we will be both inferior to the broadcaster and to the teacher, who at least has some sanctuary in his classroom.

AUDIOVISUAL BUS PROJECT

by Edward Moy
Director of Communications of BOCES
Duane K, Ash
Guidance Coordinator of BOCES
Tompkins-Seneca-Tioga BOCES
Ithaca, New York

Better utilization of Transportation Time (BUTT), an ESEA Title III Proposal, PL 89-10, was submitted by the Tompkins-Seneca-Tioga Board of Cooperative Services, January 1, 1968. The proposal was jointly designed by the Finger Lakes Region Supplementary Center and BOCES.

The original Budget Summary for the Project, under ESEA Title III Statistical Data, Section 1A, requested for the first year $289,365, the second year $263,590, for a grand total of $552,955. The original request as designed was to be staffed by several professionals and educational aides.

The State Education Department (Title III) approved, in June, 1968, a $13,000 modified version of the original project. Obviously, the project could not be operated in the same manner as first conceived because of the $439,955 cutback in Federal Funding.

Therefore, the $13,000 was to provide a micro-version of the original concept. The budget included provisions for the following:

Summer development teachers	$1,800.
2 Special Education - 15 days each 2 Academic English - 15 days each	
Winter development	$1,000.
Teacher Aides	$2,350.
35 hours/week 40 hours @$1.75/hour	
Consultants	$ 600.
Equipment Repair	$ 200.
Equipment Installation	$ 200.
Master Dubbing System	$ 610.
40 Tape Recorders	$3,900.
40 Headsets	$1,200.
Generator (Bus)	$ 550.
300 Cassettes @$1.50	$ 450.
Paper Supplies	$ 140.
	$13,000

This project had three main thrusts:

(1) To develop process skills in programmed learning techniques for participating teachers through a concentrated, tutorial in-service learning and training experience.

(2) To produce courses oriented and enrichment audio materials with the intent of providing bus students with taped, programmed sequences of instruction (for school credit), allowing students the opportunity for independent study.

(3) To employ educational technology and communications in an innovated manner giving more effective instruction to students in a regional transportation situation.

Three central schools, Trumansburg, Interlaken, and Ovid, all located on the west side of Cayuga Lake, were to participate in the program while the students were being transported by a Tompkins-Seneca-Tioga BOCES bus. The furthest school, Ovid, is twenty-six miles from the Vocational Center which is in the city of Ithaca.

During the summer four teachers (High School English - 2 and Special Education - 2) worked with the center staff and the BOCES Educational Communications Department to review materials, make selections and modifications of appropriate materials, and to develop desired programs unavailable elsewhere. Written guides were also prepared to go with recorded lessons. The guides include a brief quiz to be completed after listening to a recorded sequence.

A para-professional aide was employed to work with students enroute to the Vocational Center, duplicate instructional tapes, maintain the audio library and release teachers from non-instructional duties so that individual student-teachers conferences could be held.

Equipment evaluated the first year of the project included the following: 10 different types of cassette recorders and playback units; 8 different types of headsets; 3 types of jackboxes; a generator for the bus; a standard speed multi-cassette dubber unit plus an assortment of adapter cords and jacks. Installing the generator on the bus and wiring the bus created some unique problems. Safety regulations had to be checked closely, for instance the exhaust pipe from the generator had to be carried all the way to the back of the bus. The bus had to be inspected and cleared by the Public Service Commission.

First year summary:

During the first year the following problems were encountered:

1 - Installation of equipment was late.
2 - Hiring a qualified aide for the funds allocated was very difficult.
3 - Vocational and Special Education students rode the same bus.
4 - Varied lengths of time spent on the bus. Students' time on bus ranged from 45 min. to 15 min.
5 - Wide range of abilities and interests among the vocational students.
6 - The wrong programmed materials were developed in many cases.
7 - The project was too ambitious for the budget and staff available.

The first year had some successes:

1 - A large quantity of equipment was evaluated.
2 - We were able to determine flaws and limitations of materials developed.
3 - Technical and safety regulations were determined.
4 - A supply of material was prepared for general use as well as in the project.

In late May, 1969, the program was reviewed and since cassette use was found to be unsuccessful due to the lack of student interest in the audio approach, a new plan was applied for. The new project was approved for $10,175 on the basis of continuing an innovative concept in a direction whereby student interest would direct the activities. The budget was as follows:

Administrative Supervision	$4,880.
Secretarial Assistance	$ 320.
General Office Supplies	$ 100.
Prepared Instructional Tape Cassettes	$1,000.
Video Tapes	$ 675.
Consultants (Program Development)	$1,000.
Equipment Repair and Replacement Parts	$ 200.
4 Television Receivers	$1,000.
1 Video Tape Recorder	$1,000.

Equipment evaluated the second year included the following:

½" Videocorder
4 Small TV Monitors
1 16mm Projector
1 FS and Slide Projector
1 Portable PA
plus Cassette Tape Recorders purchased the first year

New teaching techniques used the second year to try to stimulate student interest included:

Video Tape Presentations
16mm Films
Live Speakers
Popular Music

Problems encountered this second year included:

1 - Equipment delivery installation was late.
2 - Staff time was still too little for the job to be done.
3 - Range of student interest was still extremely wide.
4 - Time limit on bus still ranged from 15 to 45 minutes.

Successes the second year included:

1 - Evaluation of new equipment was carried out.
2 - Only vocational students on the bus this year.
3 - More interest from students was evident.
4 - An additional supply of materials were prepared for general use.

General Summary

This project as funded and redesigned failed. The success of the project was that we were able to evaluate a quantity of new equipment, build up a supply of useful educational materials for general use, and, finally, we believe that we now could design a successful project, and, if it were adequately funded, it would work.

"VIDEO TAPE BOARD OF EDUCATION PROGRESS REPORTS"

by Irvin E. Henry, Dist. Supt.
Tompkins-Seneca-Tioga BOCES
Ithaca, New York 14850

Those of you present understand the definition of the word 'communication' but I'll bet those who are BOCES directors and employees know that the definition has a far greater depth and significance than a limited reference to audio-visual education.

It is with this thought in mind that we at Tompkins-Seneca-Tioga BOCES have attempted to make maximum use of such a valuable tool as the video tape recorder.

Serving a group of school districts in a region, the BOCES has about as much authoritative, decision making or directive power as a man who lives in a glass house. Perhaps this might be the sole reason why our BOCES programs tend to be successful. This positive force has greatly enhanced the tremendous growth in the face of cutbacks in many other educational endeavors. Quite frankly, the growth has come about by the positive selling of the 'BOCES Story'. Selling means a person, a picture, a voice or recorded visual and audio experiences. The 'BOCES Story' indeed must be sold to the chief school administrators of the region, they, in turn, inform their local supporting boards of education. Of course, second to none, is the responsibility of informing the BOCES 'Board'. For a number of years we had invited personnel to give verbal reports to keep the board informed or to supplement an administrative proposal. In the last two years we have launched an intensified use of the video tape recorder. This piece of equipment has proved to be the most beneficial item of communication media we possess.

Following is a list of areas in which we have used the video tape for informing and communicating with our BOCES 'Board' and the area schools:

(1) Public relations - 25 minute program showing the breadth and depth of all BOCES programs.
(2) BOCES building program - Clerk of the Works narrates 5 to 10 minute visual report each month during the construction period - Flexibility - an airplane view, in a deep trench where blasting was needed (more money for a change order!), rooftop views, muddy, rainy days, blizzard weather.
(3) Vocational, special and itinerant teachers - supplementing verbal reports on programs.
(4) BOCES administrators - supplementing their written monthly progress reports.
(5) Vocational Education for Secondary Students and Continuing Education - use for area guidance counselors - emphasizing the world of work.
(6) Special projects under ESEA Title III and others - Physical Education for the Handicapped, Bus Project, - Better Utilization of Transportation Time.
(7) Professional staff visual evaluation - special projects and ongoing programs - use by administrators, board and Education Department.
(8) Review of BOCES programs for Annual BOCES Meeting held in April.
(9) Visits to other places and school programs - 'show and tell' what is going on elsewhere in the state and nation.
(10) Orientation of new BOCES personnel, work with local colleges and universities.
(11) "BOCES Round Table" - and involvement for development of personnel policies.
(12) Field trips.

No matter what the level of age may be, the sophistication or completion of education, the most productive process to bring about successful learning is directly related to the degree of individual involvement.

Someone once said:

"What I hear I forget!
What I see I remember!
What I do I <u>understand</u>!!!"

We believe at Tompkins-Seneca-Tioga BOCES that the video tape recorder aids in getting people involved.

CONVEYING THE MESSAGE OF MEDIA,
OR
HOW TO SELL YOUR A-V PROGRAM

by Norman J. Goldstein
New York, New York

Mr. Chairman, Ladies and Gentlemen:

The philosopher once said that a teacher has the kind of job where he must be perfect the first day, and then continue to improve. So it is with the Instructional Media Coordinator, the A-V specialist in the school. And in New York City, he has additional problems. Administrators at many levels, classroom teachers, and parents as well, are often unaware of the importance and impact of media in the total educational scheme. At the building level, A-V is used primarily for enrichment purposes, as an extrinsic tool rather than as an intrinsic educational mode. All too frequently, media use is thought to be merely time-filling activity, without legitimate educational basis. With this conception of media, it follows that any meaningful programs will depend largely on the specific arrangements within each school.

Since there is no staff-line position, it has been left to the discretion of the individual school principal whether to appoint someone to the role of instructional media coordinator. The appointment may be purely custodial, where either an Assistant Principal, a teacher, or a paraprofessional distributes and collects hardware and software. This constitutes a saml1 fraction of the legitimate media role. Understandably, media instruction does not appear educationally valid under such circumstances.

In some cases, there may be a trained or semi-trained professional media person acting in a part-time capacity while being called upon to perform many other functions in addition. Rarely is the ideal of a full-time thoroughly trained and experienced media specialist in a truly professional capacity realized. Thus, media programs throughout the city school system vary a great deal in scope, depth, and most of all quality. Those of us in New York City who <u>are</u> qualified media coordinators, often feel isolated, frustrated and forgotten in the shuffle. Each of us has been forced to carve out his own definition, status and program within a framework of skepticism. It is no wonder that lay and even professional attitudes toward media instruction are confused if not negative.

Educational technology has expanded at a terrific pace, with second, third and fourth generation equipment, but a foundation of basic acceptance on the part of laymen and teachers alike is lacking. To the public, educational technology has become synonymous with highly sophisticated and expensive systems. We feel that there is a pressing need for an aggressive public relations campaign for media instruction. First we must sell the concept of media as an integral part of modern education and secondly, we must show that the media coordinator is the trained agent who can meaningfully implement such programs. Material produced for this purpose should be made avail-

able to concerned educators who wish to convey the message that A-V is not an esoteric or theoretical application of complex and ultra-sophisticated machinery, but a vital force in modern educational methodology.

We in New York City have tried to fill this media literacy gap. We have gathered slides from our membership depicting actual in-class use of media. As you can see, our aim is to increase media awareness at the most immediate level, so that educators as well as parents will realize that audio-visual approaches are essential to good learning. Our basic message is that the more senses a child brings into play during a learning situtation, the more meaningful that lesson can become.

We have used these slides and others like them at PTA meetings, in-service courses and various exhibitions and conferences. We have found that exposure to the potentials of media education stimulates new awareness and acceptance of the role of the media coordinator in a total educational program.

To reiterate, we feel strongly that the push within the field has to be towards the basics. Public education about the role of media in the modern classroom is essential. The philosophy of the media approach must be conveyed at the college and university level as well, so that teachers will come into our schools with an appreciation of the versatility inherent in the A-V approach. In addition, college level programs are needed to provide for education toward the staff-line position of instructional media coordinator.

We of IMC are trying to meet the growing need for such programs within our area by guest lecturing and giving in-service courses. But this is only a piece-meal approach. Full professional programs must evolve which will qualify participants for special licensing which must become available.

In summation, there is a great deal to be done, both in the way of dissemination of information and ideas, as well as in the upgrading of organizational and professional structures. "While it is not incumbent upon us to finish the task, neither may we desist from making a beginning."

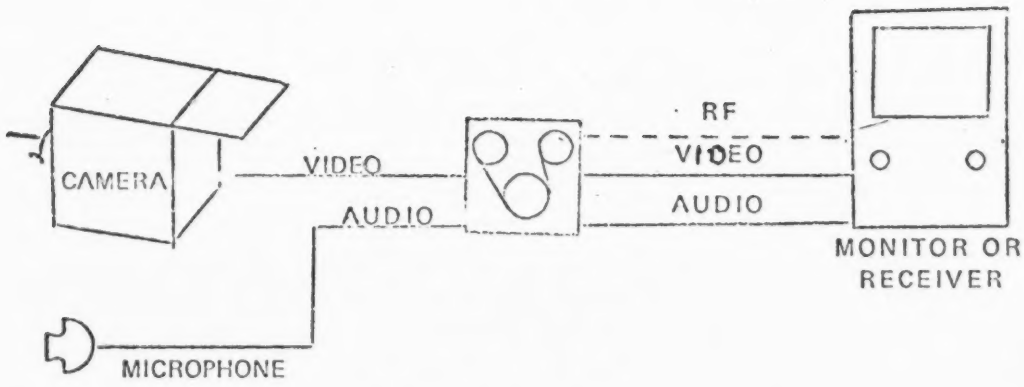
Thank you for your kind attention.

TELEVISION PRODUCTION: CUT-RATE

by David Israel
Port Washington, New York 11050

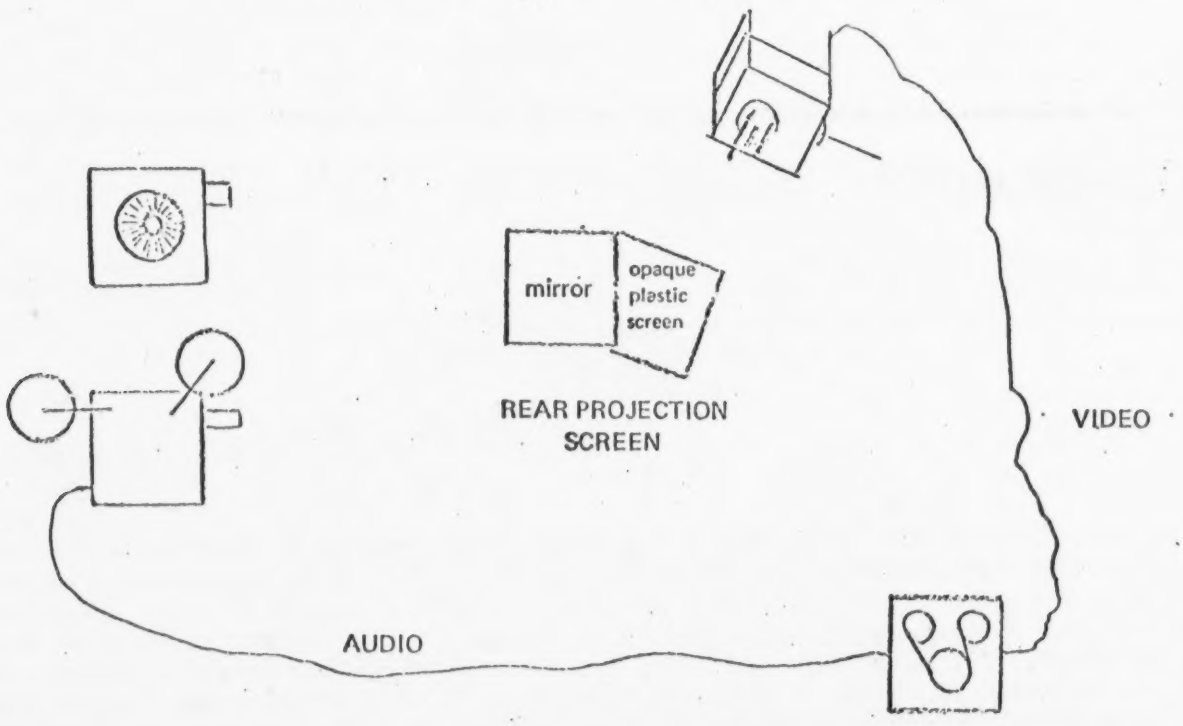
Very few school districts can afford a full-time video technician especially if they have just one or two video tape recorders: but, this limitation should be no excuse to squash innovative ideas and uses of equipment. With a few simple pieces of gadgetry, your portable tape recorder, coupled to your students and faculties imagination, can compete production wise with the big school shops. If, as A-V coordinator, you find technical knowledge a threat - either because of your naievete of things mechanical or because of your probably well based fear that you will be considered the school's "fixit man" as opposed to being regarded as a professional educator, pass this information on to some student "ham" operators, or to your industrial arts instructor or physics teacher to assign as student projects.

I will now display some systems for you to consider, each with a little more complexity, yet with many advantages, which I will discuss in some detail.

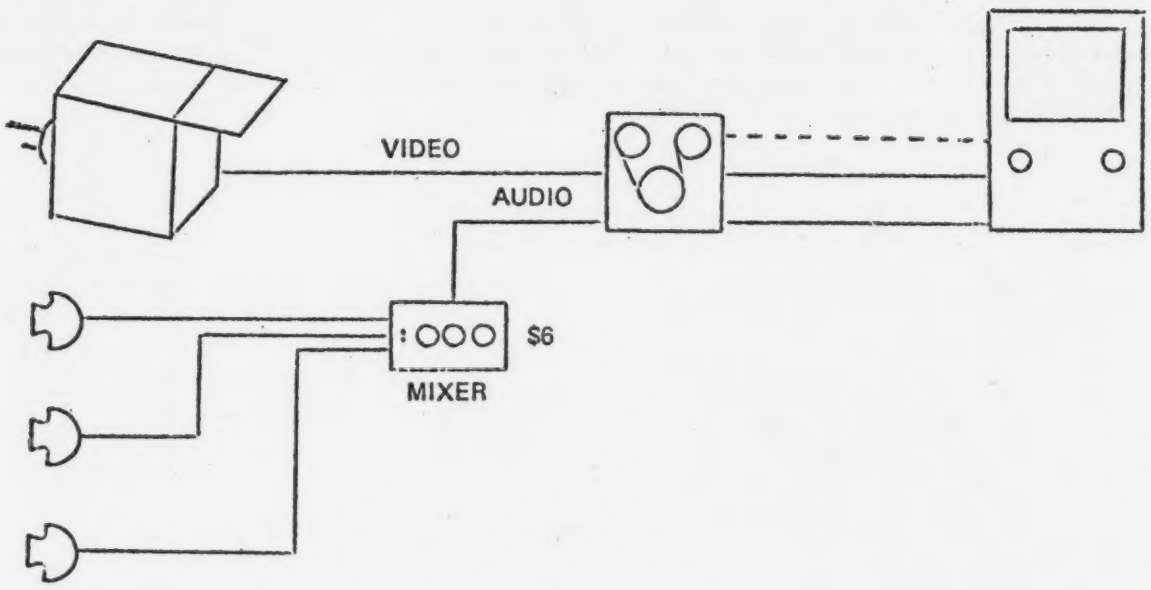


I assume everyone has the bare necessities! Know how to use them? Check out your equipment, you may have something in your equipment that you did not realize . . . for example, a small television transmitter that allows you to utilize a standard TV instead of a special monitor.

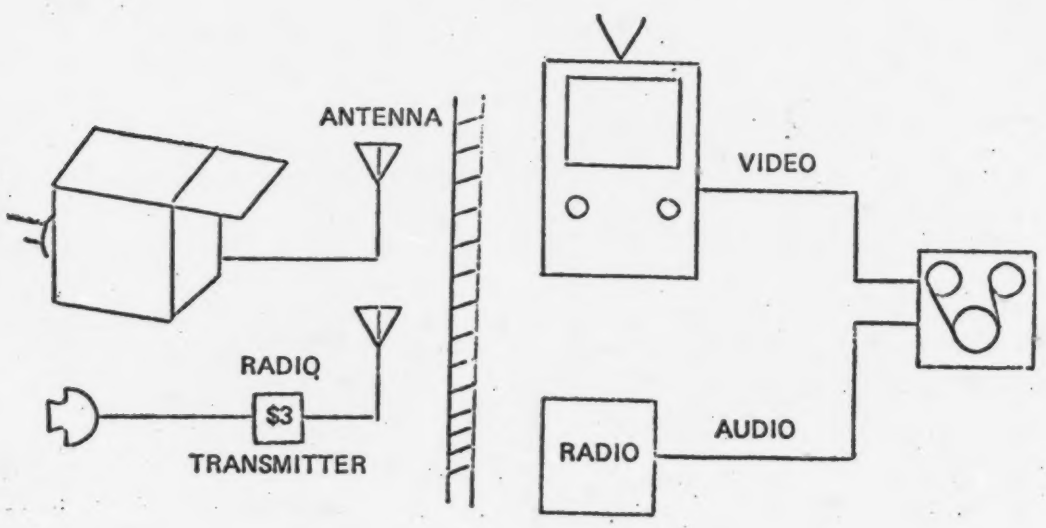
Note that the aural portion of the signal is always separated from the visual, and only under broadcast conditions are they mixed. By the way, old TV's are readily converted to monitors by looping into the grid of the video amplifier tube - if you tell your assistants that, and they do not understand what you mean, forget it!



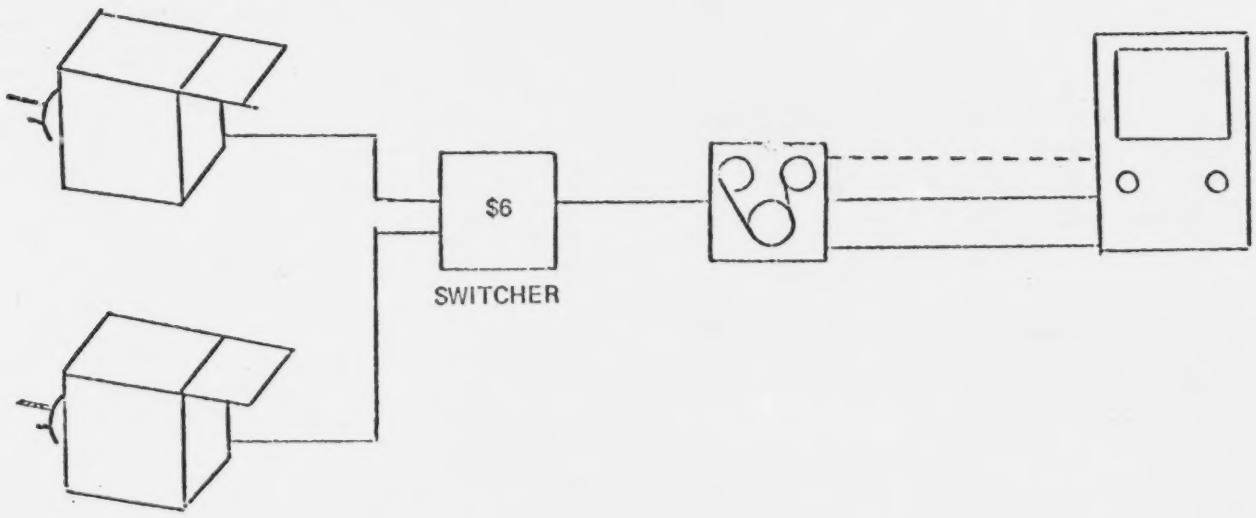
A technique you may find helpful in copying slides and films is to use a rear screen projector. They can be set up as shown, and materials can be overlapped, and even titles superimposed in the front. The technique uses light directly, so that a sharper, more defined image is received.



You want to tape a class or play and one microphone will not pick up everything. Or perhaps you dream of production with music fading into the background. Fret not, purchase a mixer. Not only will all the microphones now feed into the recorder, but you can control the amplitude, which is another way of saying "loudness" of each, making them louder or softer, or turning any one of them off without affecting the other. They start at about six dollars, and, believe it or not, the six dollar variety is very effective.

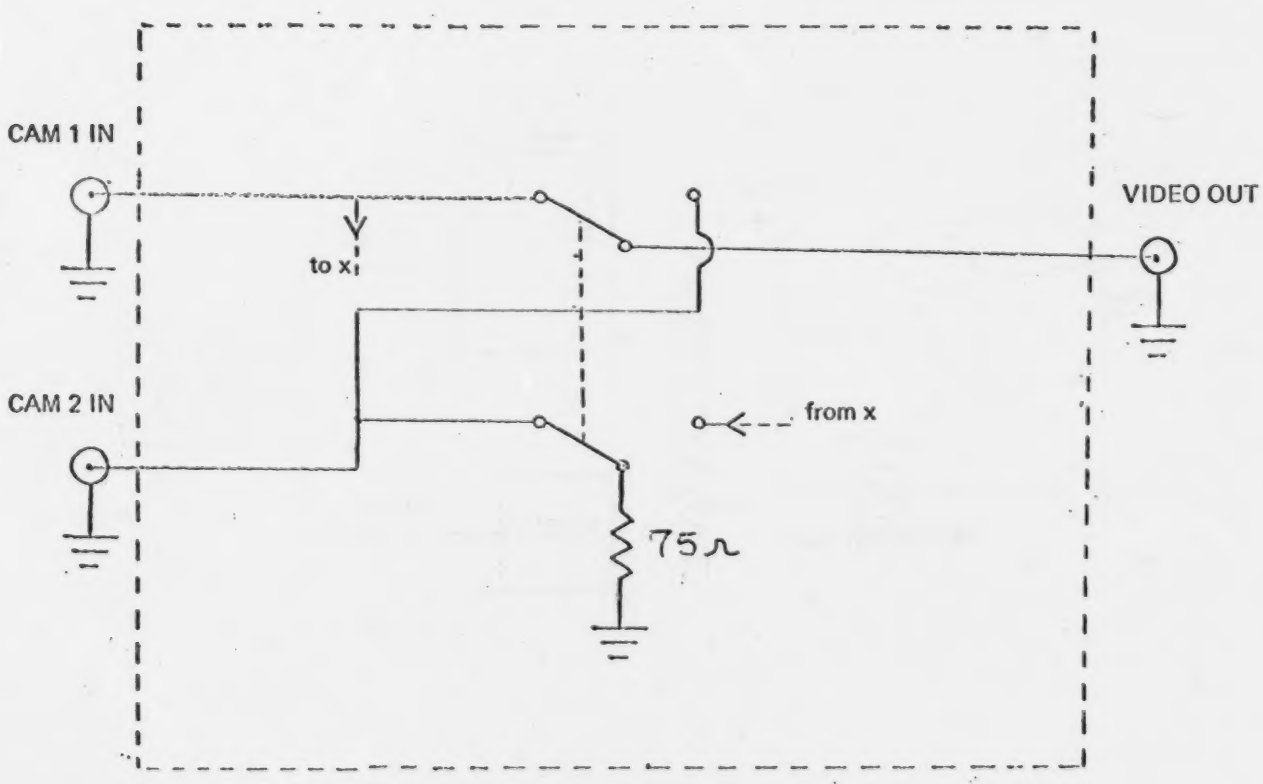


Some of the available VTR's have cameras with RF outputs. These little tramsmitters can be of immense value in certain occasions. A visit to a Lafayette Radio Store or Radio Shack Store (where, incidentally, the six dollar mixers are sold) will provide you with an inexpensive AM or FM transmitter module (these are not kits, they are completely assembled and cost about three dollars). With the camera and the transmitter, you can broadcast the picture someplace on a VHF dial of your TV, and the aural portion to a radio. Just put a camera and module in the room, run a wire into the "RF Out" in the camera for an antenna, moving it around, and possibly even grounding it to a pipe, if effective, for best transmission. Close by, preferably in an adjacent room, the operator can start and stop the machine at will and not disrupt the classroom procedures and attract attention. Oh, another use - highly irregular - clandestine placement for teacher self-evaluation or student counseling.

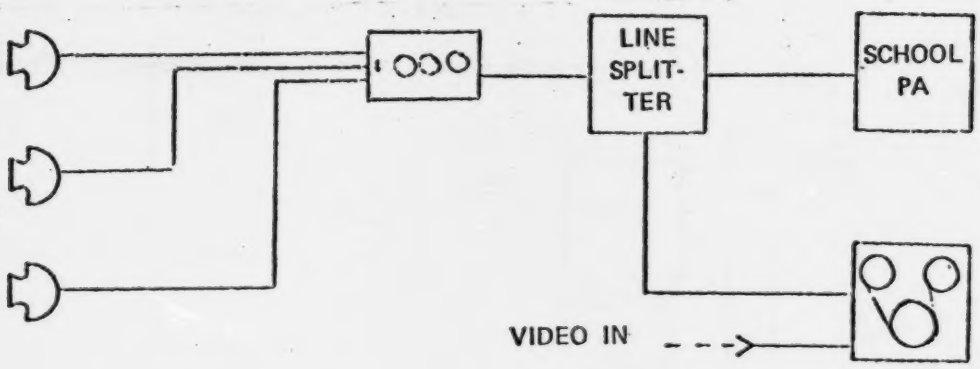


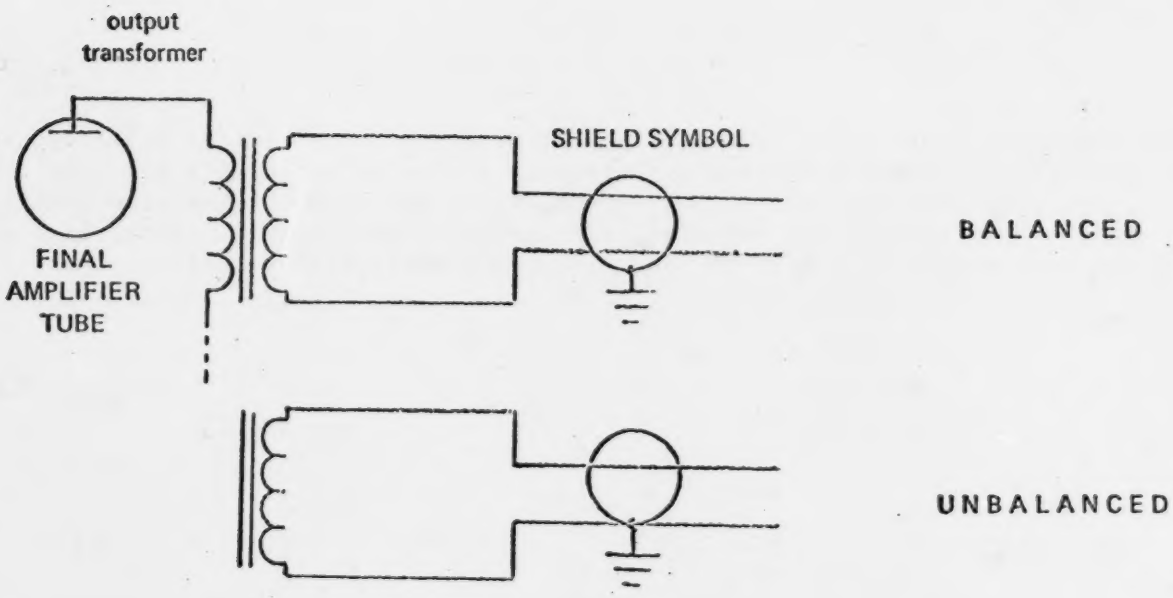
You can not afford synchronization or an expensive video switcher - but you found $300 for a second camera. Great! Build your own.

VIDEO SWITCHER



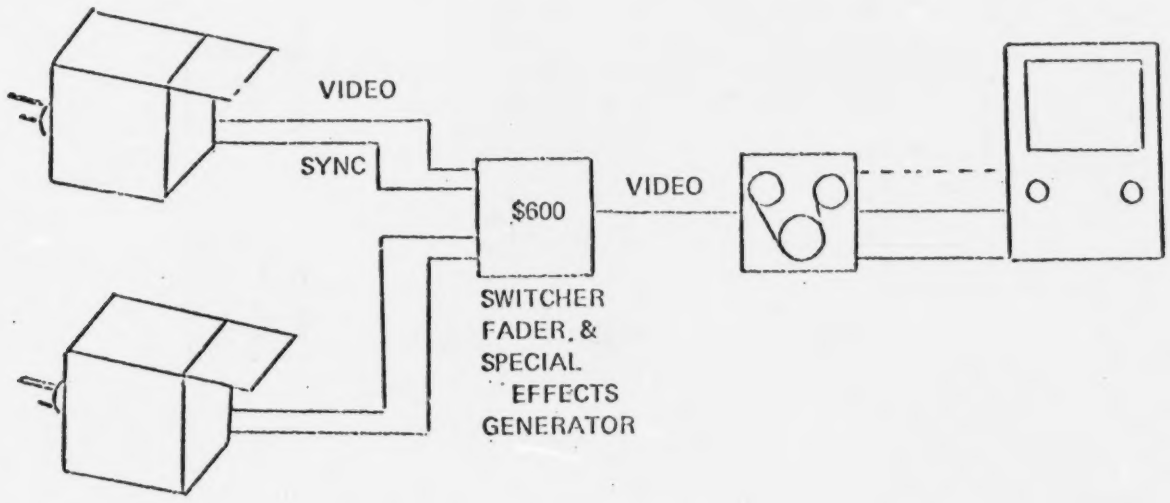
Here is a wiring circuit for a simple video switcher. Notice that a 75 OHM resistor is used to keep the proper impedence on the camera. You need it! This thing works fine, I used it for several months without any problems.



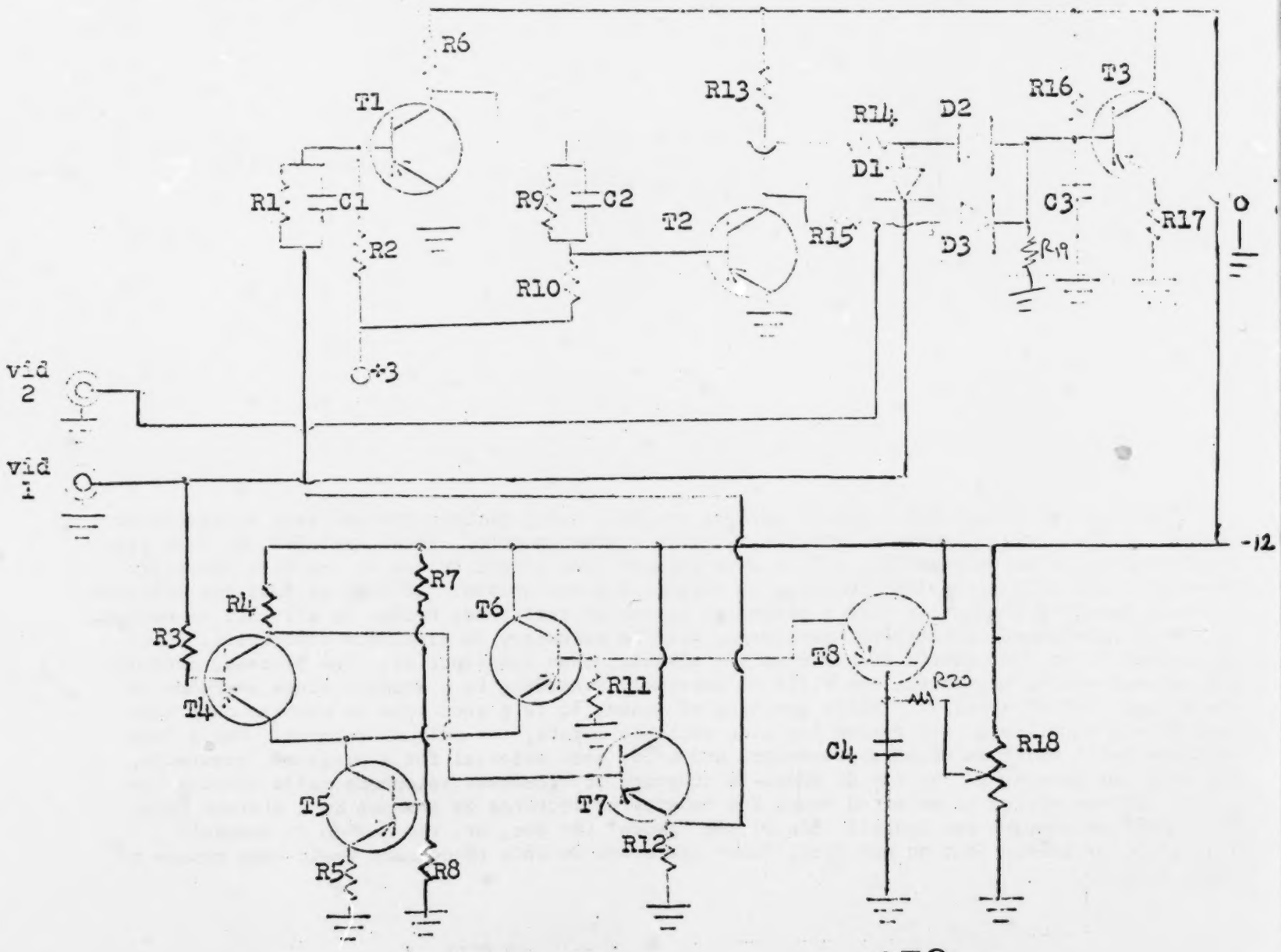


You say your school has a public address system. Well, perhaps you may want to simulcast certain things such as homeroom contests, student leader speeches, guest lectures, or even regularly scheduled announcements. A line from your TV room looped to one of the PA's auxiliary pre-amplifiers will serve this purpose. A technical point arises: If both systems are balanced, a simple parallel connection with a disengage switch or resistance bridge is all that is needed. If one is unbalanced, a matching transformer will be necessary to eliminate distortion. Find an audiophile in your school to dream up the circuit, then construct it. The process, although not an engineering nightmare, can still be extremely rewarding to a student since everyone in the school "hears" about it. While speaking of audio, it is a good idea to mention that versatility is important. Our system has nine separate inputs, not only microphones, but a tape recorder (with which we usually pre-record and color code material for a program), turntable, and even our telephone. We can do phone-in programs or broadcast telephone calls through the public address system to selected rooms for debates or lectures by someone in a distant city. The telephone company can install this simple "patch" for you, or, you can do it yourself . . . Illegally, of course (but do not fret, "ham" operators do this to connect their home phones to their radios).

In the same category with audio is headsets. There are several different types of systems available. The simplest, however, is the two wire carbon-type, which has everything in series. They are easily set up and are well worth the modest investment, believe me!



Aaah. You have some loose coin. You want synchronization. You want to dissolve, wipe, insert, matte. Essentially synchronization will provide a time reference for all your equipment so that the electron beam sweeping across your screen starts and stops at the same time in each camera. As a result, when cameras are switched, the picture does not roll. Also, if a camera is switched on for only a part of its sweep time, special effects will result.



One of my favorites is the matte. A picture from one camera is superimposed over another. Some of the more popular foreign importers have special effects generators that are as low as $600 that will give you all these possibilities. I have worked up a simple circuit for one which has not been tried as yet, but will be soon. If it is successful, the circuit would cost less than fifty dollars.

A big problem with television equipment is the delicate nature of the parts. If your machine is down, do not spend your money on a service call just yet. Did you clean the video tape heads? Are any wires broken? Which piece of equipment is bad? Can a willing fellow faculty member or a knowledgeable student handle it? Stay tuned to this basic lesson in logical troubleshooting.

MAKE SURE SOMETHING IS WRONG

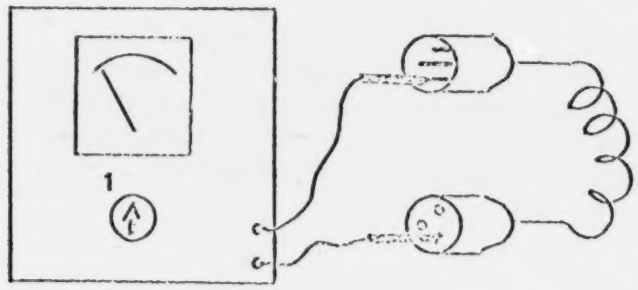
MANIPULATE THE CONTROLS

SELECT THE POSSIBLE FAULTY PIECES OF YOUR SYSTEM

MAKE SURE SOMETHING IS WRONG. All the switches and potentiometers (controls like audio gain, video gain, tracking) are adjusted correctly. Are all the plugs in their proper sockets, and inserted sufficiently?

MANIPULATE THE CONTROLS. No audio? Does the volume control do anything when you turn it? Do old tapes play? No video? Does the video gain control change anything when you turn it?

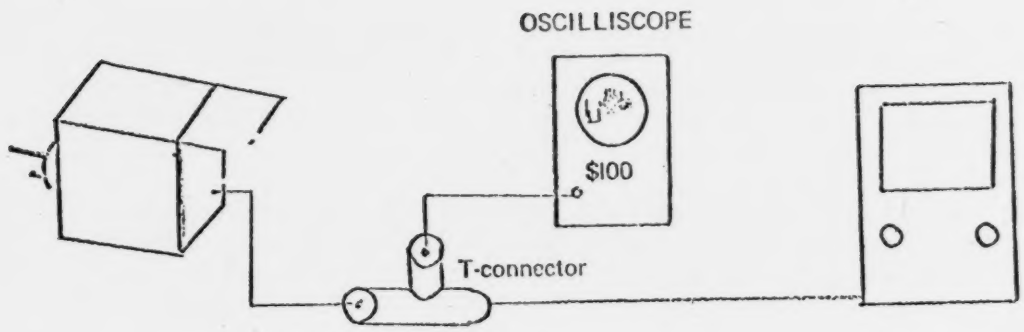
SELECT THE POSSIBLE FAULTY PIECES OF YOUR SYSTEM. Draw a block diagram for your system as I have done at the beginning of this lecture. Then systematically eliminate all the possible bad pieces of equipment to isolate the faulty item.

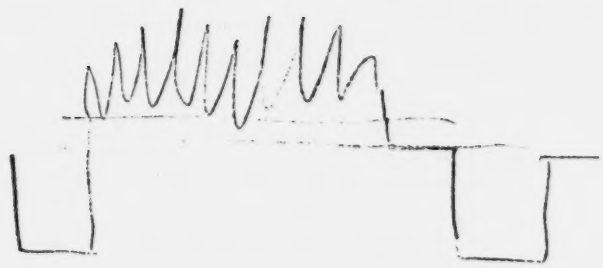


In an audio system . . . If only one microphone works, other cable or microphone is bad, switch the microphone cables to ascertain which. If neither microphone works, run one directly to machine, if it works that way, mixer or the mixer's output cable is bad: Otherwise, the VTR's audio is sick.

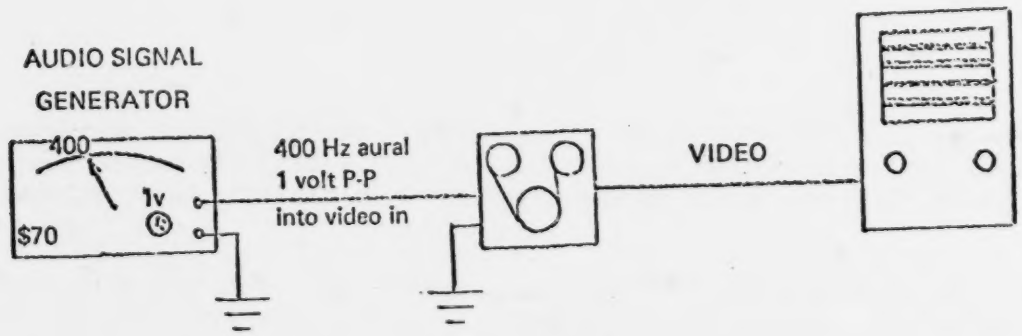
Use an ohmmeter to check cables. If the needle does not go over, the wire inside is broken. Remember, broken cables are a common malady in schools, since impatient or bored people pull at wires. Anyone with a soldering gun can fix this - why use up your budget to pay a serviceman to do it?

No video? Are your tape heads clean? Is something coming from the camera? Here is a simple way to check: Connect an oscilliscope (your physics lab can be helpful here) as shown in this diagram:





You should see this pattern on the screen. Any aberration should be readily seen on the scope, as well as on the monitor screen. The scope will tell you which part of the camera is experiencing the miseries. If nothing appears, check those cables! If you suspect the video switcher, try the camera directly. Make sure the camera is terminated . . . that is, a 75 OHM resistor is connected to the video out terminal. The camera will not operate otherwise.



Need to check the monitor . . . connect an audio oscillator to the video in jack, you will see bars on the television screen if it is good. By recording the output on your video tape recorder through the video in terminal, you can also get the same effect. Make sure, however, that you limit the output, as close as possible, to 1 volt.

If the camera, switcher, monitor, mixer, or VTR are at fault, and you have tested all the tubes, better get a serviceman. There are many sad tales of students messing up critically calibrated equipment by "fixing" it.

some. You will see these written on the back of most of your VTR's.

VIDEO IN the picture signal from the camera or the commercial TV station coming from your monitor enters here.

SYNG IN the synchronization generator's "composite" output is put in here.

MIC IN exactly that, a microphone input. And only microphones.

AUX IN or LINE IN mixers, record players, tape recorders, etc., anything that has an amplifier or somesuch after its source.

AUDIO IN OK, find the switch that is for microphone or line.

VIDEO OUT picture output to monitor.

AUDIO OUT - LINE an unamplified audio signal, needs to be fed to an amplifier or modulator.

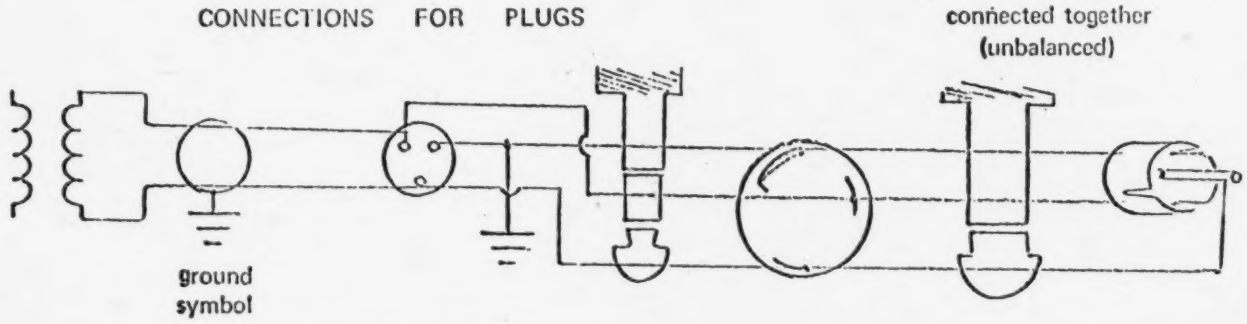
RF OUT lucky you, you have a built in transmitter. Usually factory tuned to a channel between two and six, it can be brought in on a standard TV by using the fine tuning control.

And, finally, has this conversation ever happened to you? "Hey, TV man, can I record a couple of minutes of this film to use in my multi-media TV presentation?"

It's possible, you reply, "But it's terrible sounding 'cause of the noisy projectors we use."

Have cables available to "patch" in different pieces of equipment to your VTR, so you do not have to stick microphones near speakers to record other media.

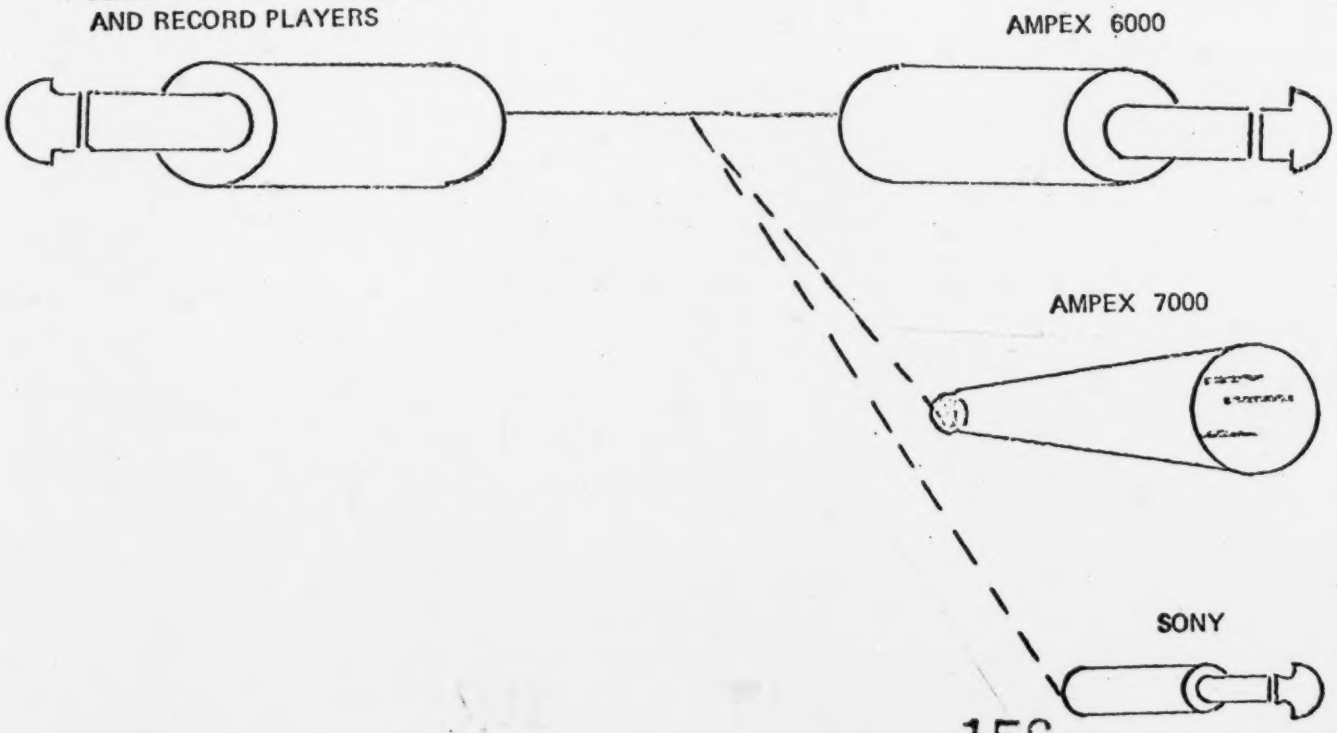
CONNECTIONS FOR PLUGS



Jacks are connected in a similar fashion.

Always check manual to watch for unusual systems.

GRAFLEX PROJECTOR,
AMERICAN TAPE RECORDERS
AND RECORD PLAYERS



Use the diagrams of plugs as your wiring guide. Keep them around. You can never tell when an emergency can occur. Also, they can be used in reverse, to record sound from your videotapes onto an audio tape.

Enjoy your equipment. Get the most out of your students and staff by allowing them to "play" with the systems for fancy productions. The lack of equipment, or its inoperativeness, are the only hangups, other than your fears of the system, that can stifle their creativity.

David Israel, Director of Television
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Have any additional ideas, or questions in our realm of knowledge . . . please write.

THE LEARNER REVISITED: CURRENT DEVELOPMENTS IN THE USE OF THE INSTRUCTIONAL TELEVISION FIXED SERVICE*

by Bernarr Cooper
Chief, Bureau of Mass Communications
State Education Department
Albany, New York

The particular items that I want to talk with you about today represent a rather significant breakthrough and a new upsurge in the use of the Instructional Television Fixed Service, or the ITFS, as it is known. The upsurge is overtly manifesting itself now at the higher institutional level. But it has certain implications for us at all levels which I think we need to analyze and discuss. The fact that ITFS is enjoying such an upsurge at the higher institutional level within a five year period of time after the service was established seems to represent something very significant, educationally. The ITFS is a new idea, and I think we've all become accustomed to the fact that a new, innovative, untried idea takes roughly 50 years for the elementary and secondary community to recognize and adopt. But, it takes some 400 years for institutions of higher learning. The fact that they have come to it so rapidly, is something I think needs to be recognized by all of us. We used to pride ourselves on the fact that our system of higher education is closely modelled on the European system, which for all intents and purposes is the best educational system any place in the world. Unfortunately, -- for educating 19th century man. Now has come this ITFS breakthrough and I think we need to give it some thought. I think most of you are aware that at the national level interest in the development of the Instructional Television Fixed Service is for an orderly and equitable sharing of channels by all sectors of the educational community in any geographical region, -- elementary, secondary, higher instructional. For each of these levels, the public, the private and the parochial. Educational interests are being asked to share equally in the planned use of these channels.

On the national level there has existed for five years an advisory committee appointed by executive order of the President to advise the FCC on an orderly development throughout the country at regional levels, east, west, north and south.

Each regional area has a regional chairman who is a member of the national committee and whose job it is to encourage the formation of sub advisory groups so that equitable development may take place in each region. The thing that has manifested itself most importantly is that there is now the thought and movement for an eventual national interconnected network of ITFS operations. No other service in the United States has quite the freedom that the ITFS has in terms of rules and regulations. It may interconnect with other systems, it may interconnect with other circuitry, it may interconnect with CATV, and it may interconnect with airborne satellites. With this wide variety of potential, all kinds of patterns of organization have emerged.

Let me speak first about the Stanford University pattern as related to the elementary and secondary levels. Stanford University uses an ITFS method of transmission with micro-wave hops over an area of a hundred and fifty miles, in order to reach more than 100 industries who pay the tab for graduate level engineering instruction, for credit or non-credit depending upon the method of enrollment and the qualifications of the individual. The thing that is important about the Stanford system is that although it started as a graduate engineering thrust to upgrade the engineering profession, it rapidly took on another concept. Stanford University and its faculty of deans, when considering this total concept, demanded certain things of the College of Engineering. First, there would never be a recording of any presentation of vedeotape. Everything would be live, and therefore, like audio there would be no recorded carry-over from the presentation. As protection to the instructors no one worries about residuals, copyright, or the like. The second guarantee made to deans was that the College of Engineering would never engage in the dissemination of instruction in any other content area. In other words, engineering only would be on the ITFS system.

The third and most impossible thing, if one looks at the known research, there would have to be, from the beginning, over this 150 mile span, a method of media potential feedback from the student. He must be able to ask a question during the presentation or engage in any kind of conversation necessary to the

* November 6, 1969

instructional process with the instructor. The College of Engineering at Stanford University was in the process of building a new complex of buildings in the Science area. The instructors who were to instruct by television would therefore never have to enter a studio, would never have to work under studio lights or studio conditions. They would never be "produced", they would only be picked up on camera. For this reason teaching classrooms were designed into the complex. The professor went to his classroom. There was a class in attendance at the graduate level, the presentation was immediately transmitted.

The construction of the classroom was rather interesting. At each two-student positions, there was one small 12-inch monitor. Taped to the top of the monitor, for ready access to two students, was one microphone so that they could immediately ask a question if they chose. The entire network could hear. The professor was in the classroom and could respond.

Now let's look at some of the things that could happen. I've told you what the basic ground rules were. The first thing that happened was that the professors became disoriented. They found that the students in the classroom rather than looking at them, (they are in the flesh and in living color, in a black and white transmission formula,) -- instead of looking at the professors, the students in the classroom chose to watch the instruction on the monitors at their position, even though the instructor isn't there. A good deal of psychological probing, using Merton's techniques in conducting interviews seemed to reveal that the students psychologically felt a closer relationship with the professor on the monitor, than with the live instructor some fifteen or twenty feet away.

The second thing that occurred was that industry began complaining. Too frequently members of industry, because of industrial assignments, were missing presentations. Industry requested that it be permitted to record the presentation at the receiving location and keep it for a short time so that the men that were out on the road, assigned to other tasks, could view that lesson on their return. The pressure was so great, that the graduate faculty at Stanford University concurred, allowing a lesson to be kept for only two weeks. It had to be erased after that.

In June of this year when I visited the Stanford project with Bill Halligan a member of our Bureau, two professors had proposed a sensationally new idea at Stanford University. If they could pre-record their presentations and it could be played at the usual time, it would mean that at that time they could be somewhere else doing something else in research. I am told, the idea seemed so sensational to other members of the graduate faculty that it was presented as a desire on the part of the faculty. Since history has a tendency to repeat itself, we once again witness the reinvention of the wheel, fire, and the telephone, but this time by members of the graduate faculty of engineering! This is not likely yet to come from arts and humanities faculties who have taken so slowly to apprciation of technological advances.

The next thing that occurred was that a group of the participating industries said to Stanford University, "You know these engineering offerings are all very well, but there is a wealth of instruction in non-engineering areas that we have discovered many people would like to have. They are interested in things other than engineering". And industry had begun to discover general education. When Stanford was approached about this they said, "Well, we're sorry, we can't do anything about it because that ground rules have been firmly set. We cannot offer non-engineering courses". And then, Don Grace, who is the associate Dean of the School of Engineering, probably one of the most astute minds any place in education, and with a tremendous feeling for inter-relationships with people, said "What would you think of the idea of forming an association for continuing education, using the Stanford facilities. This association would take the complete responsibility for planning and programming non-engineering offerings." The committee made up of industrial representatives and only one person from Stanford, hired their own director and the total offerings in non-engineering areas this next year are projected to be around 130 different courses.

Now relate this, if you will, to what must next be the relationship, between institutions of higher learning and the elementary and secondary levels, if we can bring it about. Peculiarly, because there is a need for geographical organization planning in the use of ITFS systems, all levels of education must come together to determine the use of these channels. We may yet because of a fluke of organization bring about the thing that we have been talking about in the United States for one hundred years, and for 250 years in Europe, namely, a verticle articulation between higher, secondary and elementary levels of education. Perhaps we can at last make

it very difficult for institutions of higher learning to claim that there is inappropriate and inadequate preparation in offerings at the elementary and secondary level. Perhaps we may yet force a desired pattern of training and preparation for a continual education for the individual.

For how this may work, let's take a look at Clarke County Nevada. Clarke County, which is the pseudonym for Las Vegas has an incredibly fine faculty in its school system and an unusual approach to the use of broadcast media for instructional purposes. They don't cavil a bit at the fact that they are able to support these ideas with the top 5% "take" of the gambling money that comes into Las Vegas. (That 5% comes off for support of education.) It doesn't seem to bother anybody in Las Vegas at all. They apparently have the idea that the money is not tainted, that it really doesn't recognize its origin, when it comes to spending it for electronic equipment. The money gets what the "kids" need; they put it in and it works.

The Clarke County approach to a cross broadcast media concept is interesting. Open circuit broadcast for them is only the basis of a cardioid pattern of dissemination for ITFS charts. An engineer could explain this, but in lay terms, it seems to be simply that they get out to 25 high schools and a whole "potful" of elementary schools in that entire Las Vegas area. They need the ITFS to get another direction. It also gives Las Vegas the multiplicity of channels which they need for multiple offerings at various levels at the same time. To multiply the potential even further, every receiving school not only has a distribution system by which it can feed the signal, (the multiple signals to many rooms,) but just on the off chance (and its turned out to be the "on chance") that there may be something on a channel that a teacher wants two hours later or two days later, every single receiving classroom is equipped with either a one-inch or half-inch video recorder so that they can record off the air, store, and replay many classes later. They have tried to plan all of the multipliers of the beneficial reuse of broadcast materials that they could conceive of. They not only do this for replay in the classrooms but on the perimeter of their libraries -- and most of their school buildings, incidently, are 5 years or less old, -- facinating building with planned core-contained areas, buildings built more or less in the round so that you get into the core of learning in different parts, -- but they also have on the perimeters and in every one of their libraries at least 15 individualized listening booths which will deliver an audio signal or to which a student can take a video-tape for his own "individuated" instruction (which we call individualized instruction). And this is what is happening there.

Most recently, in the state of New York, Frederick W. Terman was hired as a consultant by the Office of Higher Education, State Education Department, to make recommendations to the Department about increasing the potential opportunities for professional instruction in the State of New York. The Terman report places first emphasis on graduate engineering instruction, which shouldn't surprise us at all since he's a former Dean of Engineering. However, the thing that is important about Terman's report is that he lays out, as only an engineer with an engineer's mind could, a managerial construct for how you do this and other types of professional instruction in the State of New York for heightened professional competency after completion of education; or, for giving graduate level additional competence over and above what could normally be received in an individual institution; and, for adequate preparation and dissemination of materials and professional education such as business administration, nursing, medicine. (There is a whole list of these things.)

Frederick W. Terman gives very little emphasis to the Arts and Humanities, ostensibly on the basis, I suppose, that there is another medium in which such instruction could be received, -- like print. What is important about the Terman Report is that he has spelled out a whole series of administrative approaches, of which television becomes only a means of dissemination, and not a means of instruction.

Taking a leaf out of Terman's Report, Rensselaer Polytechnic Institute, known for its interest in certain areas of engineering education -- and Union College known for its interest in such areas as business administration, nursing, law -- these two institutions have joined forces to set up the first of the Terman concept inter-institutional interconnections. Jointly, they will be able to offer for credit at either institution and possibly for credit in the future at such

institutions as Skidmore, Albany Law and Albany Medical, all of whom lie within the same relative geographical area, the total availability of courses that lend themselves to such electronic dissemination.

For some years, the Department has pursued the idea of inter-institutional cooperation. Sometimes the responses have been enthusiastic. Sometimes less so. In the Rochester area three institutions have now come together; the Rochester Institute of Technology, St. John Fisher College and Nazareth College.

They are in the process of setting up their interconnection. They have already agreed upon certain mutual course offerings. One of the offerings long discussed has been a course in the philosophy of religion, another one is to be in the field of Spanish. French is being discussed and they will offer their first inter-institutional black studies program, Americans from Africa, which the State Education Department will get from Great Plains and will supply to these institutions for the usual payment of fee. (I hasten to add since one of the Great Plains staff is present.)

In this way we see a relationship developing that will be very, very difficult to break as time goes on. Already some talk has begun between the RPI-Union College group and the RIT-John Fisher-Nazareth group about inter-connection of the two systems so that they may take mutual advantage of their individual offerings. Industry has already been approached - 20 industries in the capitol district area have committed themselves to picking up a considerable portion of the installation tab for RPI and Union, just as they did in California for Stanford.